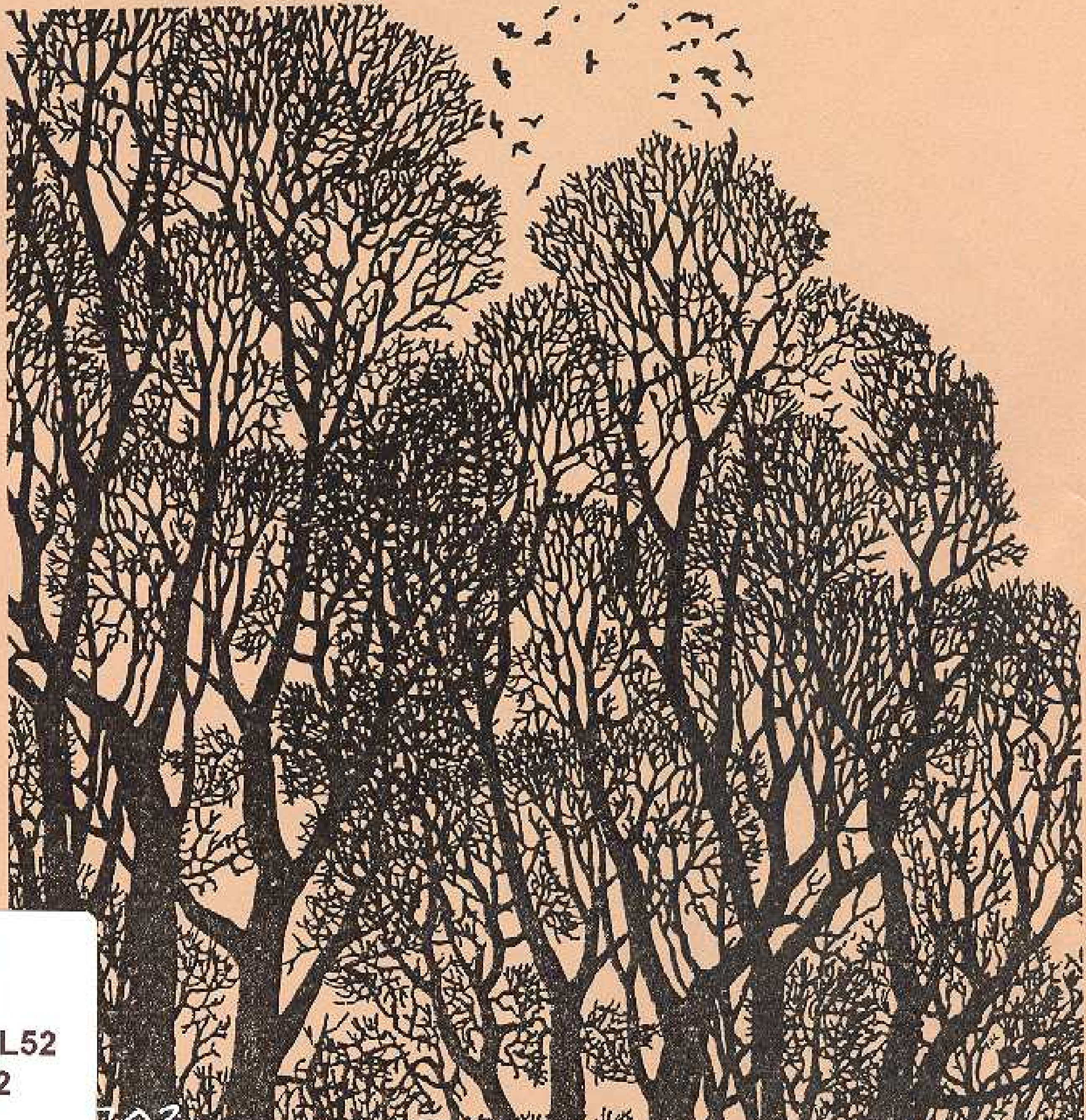
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LLAGAS CREEK WATERSHED

Environmental Impact Statement/Report

FINAL



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Final Environmental Impact Statement/Report

LLAGAS CREEK WATERSHED

SANTA CLARA COUNTY, CALIFORNIA

LOCAL SPONSORS:

Loma Prieta Resource Conservation District
Gavilan Water District
Santa Clara Valley Water District

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# FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT
for the
LLAGAS CREEK WATERSHED PROJECT

Abstract

The purpose of the proposed project is to reduce flooding in agricultural and urban areas in southern Santa Clara County, California. Approximately 16.6 miles of channel will be modified for increased capacity. Average annual floodwater and sediment damages will be reduced from $917,300 to $83,000. Nineteen acres of riparian habitat will be lost during project construction. Aesthetic and wildlife values lost will be mitigated through a comprehensive planting program.

Lead Agency USDA, Soil Conservation Service

Local Sponsors

Loma Prieta Resource Conservation District
Gavilan Water Conservation District
Santa Clara Valley Water District

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Summary

Project Background

The Llagas Creek Watershed Project Plan was approved by the three local sponsoring agencies and the governing bodies of Santa Clara County, Gilroy, and Morgan Hill in 1968 and authorized by Congress in 1969 under Public Law 83-566. Approximately 10.9 miles of channel were excavated by CALTRANS (formerly State Division of Highways) in 1971-72 to provide fill for the South Valley Freeway. About 1.2 miles of channel work were constructed by the sponsors with assistance from the Soil Conservation Service (SCS) in 1973.

As a result of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), SCS stopped construction in 1974 to further evaluate environmental impacts. The local sponsors organized the Llagas Creek Citizens Advisory Committee to assist in finding ways to minimize adverse impacts and to recommend to the local sponsors a project plan. After many public meetings, local sponsors recommended a plan to SCS in July 1978. That plan was presented in an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and distributed for interagency review in July 1979. Two months later, a public meeting was held to discuss the plan. Citizens strongly opposed the plan. In March 1980, after several meetings with the opposition, SCS and the sponsors agreed to restudy the proposed project. The second study produced a plan that is significantly different from the first. Included in the supplemented plan are measures to control erosion and restore vegetation in the reaches that were excavated in 1971-72. An environmental assessment showed that this portion of the plan would not cause any significant adverse impacts on the environment. A Finding of No Significant Impact/Negative Declaration (FNSI/ND) for this part of the work was distributed in October 1981. The EIS/EIR covers the remainder of the project.

Purpose of the Project

Local flooding is a problem about four out of every five years. Major flooding has inundated large areas 12 times in the last 60 years. The Federal Insurance Administration's flood insurance map indicates that about 10,300 acres would be inundated by a 1 percent event. The portion of the project covered by this EIS/EIR addresses problems on 5,300 acres of that 10,300. Damage to agricultural and urban areas are substantial. Average annual damages are estimated to be $77,000 to agricultural and $840,300 to urban areas. An estimated 1,123 residential buildings, 64 mobile homes, 463 commercial establishments and 24 industrial buildings are located in the 1 percent floodplain. Other buildings in the floodplain include 8 churches, 42 school buildings, and 545 other buildings including detached garages, sheds, barns, etc. The first floors of some of these structures are above the 1 percent flood level.

The sponsors are also concerned about the need to preserve wildlife habitat and the steelhead trout fishery in Llagas Creek. Another important goal is the reduction of soil erosion.

Description of Proposed Project

Approximately 16.6 miles of channels will be modified for increased capacity. Channel design will include portions of trapezoidal earth channel, channel excavation from one side only, trapezoidal channel with riprap on banks, rectangular reinforced concrete lined channel and selective clearing of vegetation and debris removal. A low flow channel for steelhead migration will be installed within main branch Llagas from its mouth to above Monterey Road. In association with the channel work, 10 grade stabilization structures and 35 road crossings will be installed.

Mitigation includes restoring the riparian resource with vegetative plantings, installing low flow channels and fish ladders, establishing plantings to mitigate visual impacts, and complying with various local and state ordinances for air and water quality.

Estimated installation cost is $23,804,400. The estimated average annual operation and maintenance cost is $49,400.

Impacts of Selected Plan

Average annual floodwater and sediment damages would be reduced from $917,300 to $83,000. Urban areas would benefit the most.

The project would reduce flooding of farmland by 500 and 1,280 acres for the 10 percent and 1 percent events, respectively. All of this is prime farmland or land of statewide importance. Flooding from the 1 percent event would be eliminated on 946 acres of urban land. Five hundred and fifty-six buildings would receive protection from floodwater.

Project installation will require 65 acres of prime land and 15 acres of lands of statewide importance. These are the only land use changes anticipated as a result of the project.

Project installation will not affect any threatened or endangered species listed by the U.S. Fish and Wildlife Service or the California Department of Fish and Game. Nineteen acres of riparian habitat will be lost during construction. Visual and habitat values will be replaced by mitigation.

The Gilman Road bridge, which is eligible for the National Register of Historic Places, will be removed by project installation.

Energy requirements for both fossil fuels and electricity will be reduced over the long term by project installation.

Alternatives Considered

-- No Project: If the project is not built, the area will continue to flood. Average annual damages of $917,300 would continue.

-- Nonstructural Plan: This alternative has limited application in the watershed because of the concentration of damages in the urban areas. Some rural homes and businesses could be protected with nonstructural measures as a part of the selected plan, if sufficient interest existed.

-- Structural Plans: Six alternatives using various combinations of floodwater storage and channel modification were evaluated for their effectiveness in providing various levels of flood protection. Sponsor objectives, elements of the general plans, and agency policies and regulations were considered in the evaluation.

Background

An application for planning assistance for the Carnadero and Llagas Creek Watersheds was prepared by the three sponsoring local organizations in January 1957 and submitted to the State Soil Conservation Commission. The Commission distributed a summary of the application to interested local, state and federal agencies, with a request for comments. A field examination of the watershed was conducted and was attended by representatives of various agencies. The Soil Conservation Commission then approved the application in August 1957. A steering committee, made up of representatives of several local agencies and groups, was organized in December 1958.

The Administrator of the Soil Conservation Service authorized planning assistance in September 1959, and studies leading to the preparation of a watershed work plan began. Planning was accomplished under the guidance of a local steering committee and involved state and federal agencies, including the State Department of Fish and Game, State Department of Water Resources, the State Division of Forestry, and the U.S. Fish and Wildlife Service. A review draft of the plan was distributed to these and other agencies in April 1962. As planning progressed, controversy arose, and an advisory committee was formed in September 1962 to help resolve differences. Development of the plan continued through 1966. Several public meetings were held during this period, and numerous articles concerning the project appeared in the Gilroy Dispatch, Morgan Hill Times, San Jose Mercury and San Jose News.

Separate work plans were prepared for the Lower Llagas Creek and Upper Llagas Creek Watersheds, and these were distributed for interagency review in May 1967. Copies were sent to regional, district, or area offices of the federal agencies listed below.

Forest Service
Farmers Home Administration
Public Health Service
Bureau of Mines
Bureau of Indian Affairs
Bureau of Land Management
Bureau of Outdoor Recreation
Bureau of Reclamation
Corps of Engineers
Federal Water Pollution Control Administration
Fish and Wildlife Service
National Park Service
U.S. Geological Survey

The State Division of Soil Conservation distributed review copies to interested state agencies. Responses were received from the following:

Department of Water Resources
Department of Public Health
Department of Fish and Game

Division of Forestry
Division of Highways
Reclamation Board

Comments from these agencies led to some revisions in the plans. The final plans were approved in January 1968. Those who approved the plans were the Loma Prieta Resource Conservation District, South Santa Clara Valley Water Conservation District (now Gavilan Water Conservation District) and the County Board of Supervisors (acting as Supervisors of the Santa Clara County Flood Control and Water District, now Santa Clara Valley Water District). The cities of Morgan Hill and Gilroy endorsed the plans the following month. The plans were then transmitted to the Secretary of the Interior, the Secretary of Health, Education and Welfare, the Chief of the Corps of Engineers, and the Chairman of the Federal Power Commission for their review and comments. They were also transmitted to the Administrator of the Resources Agency of California, who approved them on behalf of the Governor of California in May 1968. The plans were then submitted for Congressional approval. Congress approved the Lower Llagas plan in July 1968, and the Upper Llagas plan in September 1968. Funds for installation were authorized by the Soil Conservation Service in April 1969.

The early plans also included land treatment. The major components of the land treatment plan were for fire prevention and included fuelbreaks, water tanks, roads and heliports. These measures have been installed. Future land treatment needs will be handled under existing programs.

In 1971-72, California Division of Highways (now CALTRANS) excavated 10.9 miles of channels to provide fill for the South Valley Freeway (Highway 101). This was a savings to the project since the cost of excavation was attributed to highway construction. These channels were excavated to the approximate sizes and grades shown in the original plan. The original plan also called for grade stabilization structures, channel bank protection, and restoration of riparian wildlife habitat in these reaches, and that work has not yet been done. In 1973, the Soil Conservation Service constructed an additional 1.2 miles of channel in the lowermost reach of Llagas Creek. SCS and the Sponsors also intended to complete the installation of CALTRANS channels in the near future.

In 1974, SCS stopped construction to further evaluate environmental impacts as required by the National Environmental Policy Act. The Sponsors organized the Llagas Creek Citizens Advisory Committee which met from 1974 to 1976 to further define the goals and objectives of the project and recommend a plan. After numerous meetings, the Sponsors recommended that SCS proceed with the project as presented in the 1979 Draft EIS. Although this project was in general agreement with the plan recommended to the Sponsors, some members of the Citizens Advisory Committee remained dissatisfied.

A Draft EIS was circulated for public review in July 1979 and a public hearing was held on September 16, 1979. About 500 copies of the Draft EIS were distributed to various agencies, groups, and individuals. The EIS surfaced strong citizen opposition, and several public agencies also raised objections to the plan. As a result, SCS and the Sponsors agreed to restudy the proposed project.

Early during the restudy process, the Sponsors and SCS recognized that two categories of structural work had to be considered. These were:

1. Complete the partially installed reaches of channel excavated by CALTRANS. The completion of this work would add no further flood protection. It would reduce erosion within the excavated areas, mitigate the losses of fish and wildlife habitat, and mitigate induced flooding downstream of the excavated channel sections.

2. Install those remaining portions of the project which would provide additional flood protection and are economically justified by the additional benefits generated.

The Sponsors and SCS believe that mitigation of the adverse impacts of the CALTRANS excavation is the minimum acceptable level of work. SCS policy requires that the channels be brought to the agency's design standards. The Sponsors and SCS also recognized that the stabilization and wildlife/fisheries mitigation work necessary to complete the CALTRANS excavated areas would have mostly positive impacts. The cost of installing the required work is the only adverse impact.

After considering inputs from the public, the Sponsors and SCS decided to environmentally clear the erosion, visual, and fish and wildlife habitat mitigation by a Finding of No Significant Impact/Negative Declaration (Appendix A).

The work to correct flooding induced by the CALTRANS excavation would require channel work and bridge construction. Because of its potential impacts, the Sponsors and SCS decided this work should be included in this EIS/EIR along with the alternatives studied to alleviate the remaining flood damages.

As part of the reformulation process, the channel system was subdivided into various reaches. These are identified on Figure 2 and many of the subsequent figures in this report.

Purpose & Need

As approved in 1969, this project was developed to solve the flood problems in the major valley of the watershed. Localized flooding occurs about four out of five years. Major flooding has inundated large areas 12 times in the last 60 years, primarily during December, January, and February. Acreages flooded vary depending on prior watershed conditions and intensity and distribution of rainfall (Table 1).

TABLE 1
HISTORIC FLOODING IN
LLAGAS CREEK WATERSHED

Flood Year	Acres Flooded
December 1937	4,310
December 1955	7,360
April 1958	7,280
February 1962	230
February 1963	3,310
January 1969	1,400

The largest recorded flood was estimated at a 3 percent chance event. After heavy rainfall for a period of one week, a flood peak was reached on Llagas Creek on December 23, 1955. Before the flood waters receded, approximately 7,360 acres had been inundated. Homes, farm equipment, roads, and bridges were damaged in rural areas (Figure 1). In Gilroy, 16 city blocks were inundated along Miller Slough, and 225 people were forced to leave their homes for a two-day period. Eighty-six people were provided shelter by the Red Cross. Another major flood occurred three years later in April 1958, and although the estimated return period of this flood was considerably smaller (14 percent event), the total area inundated was nearly equal to the 1955 flood. The portions of the project which have been installed since 1971 have reduced the potential flood damage.

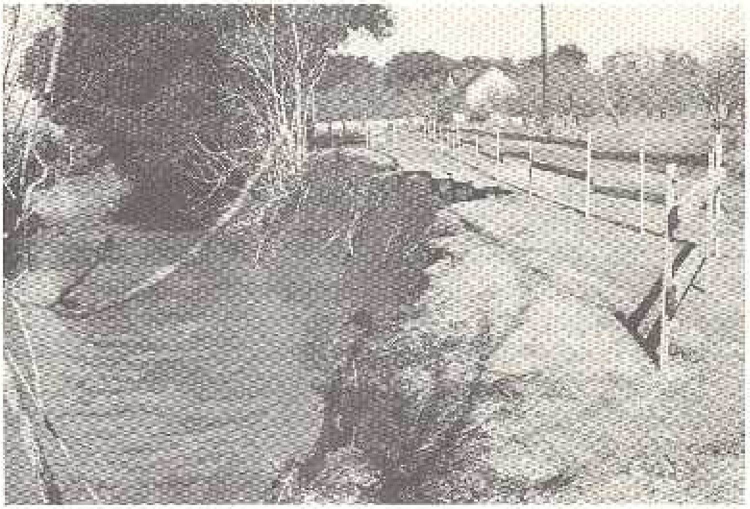
The Federal Insurance Administration's (FIA) preliminary flood insurance rate map (October 30, 1979) indicates that about 10,300 acres whould be inundated by a 1 percent event (Figure 2). This plan addresses 5,300 acres of that floodplain (Table 2). This does not include 4,300 acres that are in the floodplain common to the Pajaro River and about 700 acres of narrow floodplain in the upstream tributaries of Llagas Creek.

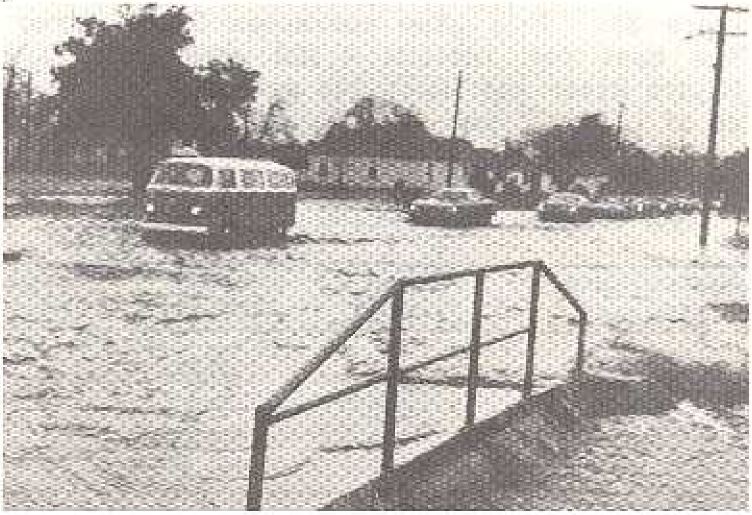
TABLE 2
LAND SUBJECT TO FLOODING

Flood Event (Percent Chance)	Agricultural (Acres)	Urban (Acres)	Other (Acres)	Total (Acres)
1	3,300	1,300	700	5,300
10	1,400	450	330	2,180
80	0	0	0	0

Rural flooding near Gilroy-
1958.

Undermined tree and roadway
at Llagas Creek along
Holsclaw road - 1969.





Looking north towards
Monterey street along Main
avenue, Morgan Hill - 1973.

Figure 1

Agricultural Damage

Agricultural damages from floodwater include: root rotting (the saturated soil makes plants more succeptible to root rot as well as provide optimum conditions for the motile spores of this fungus), causing yield reductions or complete crop losses; delays in planting new crops due to overly wet field conditions; floodwater-borne introduction of weeds and plant diseases requiring additional pesticide application; debris left by receding floodwater requiring costly cleanup operations; and land damage through erosion of topsoil and deposition of sediment. Farm buildings, machinery, and irrigation and water control systems are also damaged by floodwaters, sediment, and debris.

Agricultural damages attributable directly to sedimentation are not easily separated from floodwater damage, since both occur at the same time. Sedimentation damage to truck crops occurs after flooding and is due to a thin film of silt making the crop unacceptable for human consumption. The deposition of a thin layer of debris on garlic fields sometimes prevents the growth of the plants. The sediment and debris must be removed at a high cost to the farmer. Orchard trees sustain little damage from light sedimentation, though some clean-up is usually required. Average annual agricultural damages, excluding damages to buildings, are estimated to be $77,000.

Urban Damage

Severe flooding causes water and sediment to enter homes, especially those with slab-floor construction. This water damages structures, household furnishings, and other personal possessions. In addition, sidewalks, driveways, yards, fences, and other accessory structures are damaged from floodwater, sediment, and debris. An estimated 1,123 residential buildings and 64 mobile homes are located throughout the rural, agricultural, and urban areas of the 1 percent floodplain. Of these, 199 would receive interior flooding at the 1 percent event. Average annual residential damages are estimated to be $136,900. Approximately 3,500 people in the flood plain are exposed to hazards and stress from flooding during the 1 percent event.

In commercial areas, flood and sediment flows are more damaging than in agricultural or residential areas. Floor levels are generally lower, resulting in greater loss of equipment, finished goods and products, and supplies due to flooding. An estimated 463 commercial establishments are located in the floodplain; of these, 278 would receive flood damage at the 1 percent event. These average annual damages are estimated to be $560,600.

Although industrial activity is presently limited in the area, shallow flows of floodwater and sediment cause extensive damage to equipment and raw and finished products. These are generally stored on floors at ground elevation or lower. About 24 industrial structures are located in the floodplain; of these, 16 would receive flood damage at the 1 percent event. Average annual damages are estimated to be $75,300.

An additional number of structures are located in the floodplain including 8 churches, 42 school buildings, and 545 other buildings (detached garages, sheds, barns, stables, and other miscellaneous buildings). Of these, 215 would receive flood damage at the 1 percent event. Average annual damages are estimated to be $67,500.

Based on current land use and price levels, direct floodwater and sediment damages from the 1 percent and 10 percent events were estimated (Table 3).

TABLE 3
FLOODWATER AND SEDIMENT DAMAGES

	1 Percent Event	10 Percent Event	Average Annual
Agricultural	$ 535,700	$ 226,100	$ 77,000
Urban	7,915,100	1,140,900	840,300
	$8,450,800	$1,367,000	$917,300

Affected Environment

Physical Resources

The Llagas Creek Watershed is located in southern Santa Clara County, California, about 80 miles south of San Francisco. Llagas Creek is a tributary to the Pajaro River which discharges into Monterey Bay near Moss Landing. It lies within the California Water Resources Region and is in the Central Coast Subregion. The 57,300 acre watershed extends approximately 22 miles northwest to southeast, and averages six miles in width (Figure 3). It contains portions of the south Santa Clara Valley and the Santa Cruz Mountains. Most of the lands in the valleys are nearly level to gently rolling with the upper reaches being steep and rugged.

There are three general land forms in the watershed. These are: (1) the recent alluvial plains and fans of the southern Santa Clara Valley, (2) the older alluvial fans and stream terraces along the outer margin of the southern Santa Clara Valley; and (3) the foothills and mountains of the Santa Cruz and Diablo ranges that parallel the valley.

Soils: Soils in the north end of the Santa Clara Valley between Morgan Hill and Gilroy are deep, well drained, medium to fine textured, with slopes of less than 9 percent. Major soils in this area are the Yolo, Zamora, Pleasanton, and Arbuckle series; all are Class I and II-e. Only the Pleasanton soils have more than a slight erosion hazard.

Soils in the southern area of the Santa Clara Valley south of Gilroy are deep, poorly drained and moderately fine to fine textured. Slopes are generally less than 2 percent. The major soil series of the area are in the Clear Lake, Campbell, Sunnyvale, and Willows series. Most of these soils are Class III-w and IV-w lands.

Prime Agricultural Land: There are approximately 16,300 acres of prime farmlands and 5,100 acres of lands of statewide importance located in the watershed.

Stream System: From its headwaters, Llagas Creek flows about six miles to Chesbro Reservoir. This reservoir has a surface area of 270 acres and can store 8,086 acre-feet of conservation water. From Chesbro, Llagas Creek flows southeasterly through the central portion of the basin to its confluence with the Pajaro River. Llagas Creek has numerous tributaries, the major ones being East Little Llagas Creek, Miller Slough, and West Branch Llagas Creek. East Little Llagas Creek, which joins Llagas Creek between Church and Masten Avenue, drains the northerly portions of the valley lands tributary to Llagas Creek and has several tributaries of its own, including West Little Llagas Creek.

Channel characteristics of Llagas Creek and its tributaries vary from natural to man-made. Certain reaches of the streams, especially those near the urban areas of Morgan Hill, San Martin, and Gilroy, have been modified for flood control purposes.

Geology: The Llagas Creek Watershed is underlain by rocks of the Franciscan formation of Jurassic and Cretaceous age. These rocks consist of a wide variety of lithologic types including sandstone, shale, and chert. Other sedimentary rocks present in small amounts are conglomerate and limestone. The sediments have been intruded by igneous bodies such as serpentine, periodotite, and diabase. Interbedded volcanics also occur. The Franciscan is exposed in the upper watershed on the west side of the valley. Also cropping out in this part of the watershed are several Tertiary and Cretaceous sedimentary units of relatively minor extent.

The narrow portion of the watershed located to the east of the valley floor is separated from the main range further east by the trace of Calaveras and other faults. This area is predominantly underlain by continental deposits of sandstone, shale and conglomerate of Cenozoic age. Small bodies of volcanic rocks of relatively recent age are found interbedded with the continental deposits which form the greater part of the range. Isolated bodies of various types of Franciscan rocks occur between the major faults.

The valley floor is a down-dropped block between uplifted mountains on either side. Quaternary alluvium has been deposited in the valley to depths up to 400 feet, and the total thickness of relatively unconsolidated sediments is probably in excess of 1,000 feet when the underlying Plio-Pleistocene deposits are included. Temporary damming of surface outflow from the valley caused the periodic deposition of tight, clayey lake beds which are now aquicludes that confine several subsurface water bodies in the lower South Santa Clara Valley.

Minerals: Mineral resources in the area include sand and gravel, cinnabar (mercury), and the abandoned Sargent oil field seven miles south of Gilroy. Sand and gravel are commercially the most important mineral resources and also the most common. Crushed rock is also a commercially important material in the region. It may be derived from greenstone, serpentine, diabase, and chert-limestone materials.

Climate: The area has a Mediterranean-type climate. Summers are warm and dry with moderating marine breezes. Winters are mild, with virtually all the rainfall coming from storms originating in the North Pacific during the winter season of November through March.

Mean annual temperature is 58°F with a mean monthly variation from 66°F in July to 48°F in January. Extreme temperatures in Gilroy are recorded as 20°F and 116°F. The average frost-free period is 273 days. The growing season varies between 209 days and 365 days in Gilroy. Average annual precipitation ranges from about 40 inches near the headwaters of Llagas Creek to 28 inches at Chesbro Reservoir, and to 20-24 inches on the valley floor. About 92 percent of the average annual rainfall occurs between November 1 and April 30.

Ground Water: The Gavilan Water Conservation District maintains 51 acres of percolation ponds located upstream of the South Valley Freeway (Highway 101) and below Chesbro Dam.

Approximately 50 acre-feet per day are recharged with estimates up to 13,000 to 14,000 acre-feet per year. Of this, about 9,000 acre-feet are piped in from Uvas Creek whose watershed is immediately west of the Llagas Creek Watershed.

Approximately 90 percent of the water supply is met by ground water extraction. The water is generally of excellent quality and suitable for most uses. In isolated areas, concentrations of iron and nitrate exceed the recommended drinking water standards. Ground water extractions are reportedly balanced by recharge at present, although water has been imported from outside the watershed in recent years to compensate for past ground water overdraft.

Surface Water: The predominant surface water resource in the watershed is Llagas Creek and its tributaries. Llagas Creek discharges approximately 11,500 acre-feet of water annually into Chesbro Reservoir.

Water Quality: Surface water quality testing and monitoring by the California Department of Water Resources indicates that water in the upper reaches of the watershed is of high quality. However, as water flows through the lower portions of the watershed the total dissolved salts and coliform count increases.

Economic & Social Resources

Population: The watershed includes portions of the incorporated cities of Morgan Hill and Gilroy, which are connected to San Francisco and Los Angeles by U.S. Highway 101. San Martin is an unincorporated community located between Morgan Hill and Gilroy. The city of San Jose with a population of 637,000 is 18 miles north of Morgan Hill. As of January 1980, the population of Gilroy was estimated at 21,600 and Morgan Hill reached 17,000. These two cities were the fastest growing cities in the county. Of the total population for the two cities, 35 percent are hispanic and 5 percent are of various other minority groups. A similar ethnic composition occurs within the flood plain. Portions of the watershed are being developed into urban areas at an increasing rate. Population growth increased substantially during the period 1960-1980, and is projected to continue this high growth rate. Table 4 shows the Santa Clara Planning Department population estimates for the year 2000.

TABLE 4
Population (x 1,000)

Area	1960	1970	1980	2000 (est.)
Total County	642.3	1,066.9	1,295.0	1,580.7
Morgan Hill	5.1	7.7	17.0	30.0
San Martin	3.5	2.5	5.9	8.0
Gilroy	11.1	15.4	21.6	38.5

Land Use: The Llagas Creek Watershed is a predominantly rural agricultural area (Figure 4). Table 5 indicates that approximately 93 percent of the watershed is in some form of agricultural use. The lower watershed, principally the gently sloping, alluviated valley floor, remains much more intensively cultivated than the upper watershed and includes the majority of the floodplain. The upper watershed is primarily in forest and chaparral. Most of the urban land is located in or around the cities of Morgan Hill and Gilroy.

TABLE 5
LAND USES (1980)

	Watershed		1 Percent Floodplain	
	Acres	Percent	Acres	Percent
Cropland	20,600	36	3,120	59
Pastureland and Hayland	5,200	9	180	3
Rangeland	21,200	37	0	0
Woodland	6,300	11	0	0
Urban and Other Land	4,000	7	2,000	38
TOTAL	57,300	100	5,300	100

The watershed has been undergoing increased urbanization due to pressures for housing generated by employment in northern Santa Clara County. Master plans of the county and cities for the watershed area have been designed to accomodate some of this pressure, yet maintain the rural agricultural nature of the area. Most of the projected growth will occur within the cities of Morgan Hill and Gilroy, both of whose populations are expected to double by the year 2020. A large area around San Martin is zoned for 2.5 acre lots. The majority of the remaining watershed, particularly the floodplain area, has been zoned for agricultural uses (20 to 40 acre minimum lots).

Economy of the Area: The major industries in the watershed are agriculture, commercial and wholesale trade, and manufacturing. Historically, agriculture has been the major industry in the area. Even with today's trend toward urbanization, the growing, processing, and marketing of farm products accounts for about 85 percent of the annual income. The County Planning Department projects agriculture will still be predominant 20 years from now.

There are about 900 farm units in the watershed. Most are owner-operated. Farms range in size from 2.5 to 3,500 acres, but the average size is about 30 acres. Approximately ten livestock ranches are in the area and average about 1,000 acres in size.

Farmland is devoted primarily to row crops with small areas of orchards, grains, and hay. Many walnut orchards are located along Llagas Creek below Chesbro Dam. Cattle production is common in the upper watershed. Crop production in the floodplain is more intensive and includes truck crops such as onions, peppers, sugar beets, beans, garlic, and tomatoes (Table 6).

The nonagricultural sector of the area's economy concerns manufacturing and commerce. Processing plants for products such as garlic, seeds, pickles, wine, health foods, and strawberries also contribute substantially to the local economy. An important factor in the local economy is the increasing number of people who live within the watershed but commute to the San Jose metropolitan area for employment.

TABLE 6
CROP YIELDS
(Tons/Acre)

Crop	Yield
Alfalfa	5.5
Beans	4.0
Cherries	5.7
Cucumbers	15.0
Garlic	5.5
Hay, Oats, and Vetch	1.7
Flowers for Seed	2.0
Peppers	9.5
Prunes	1.0
Strawberries	19.5
Sugar beets	31.0
Tomatoes	28.0
Walnuts	0.5
Grapes	3.0

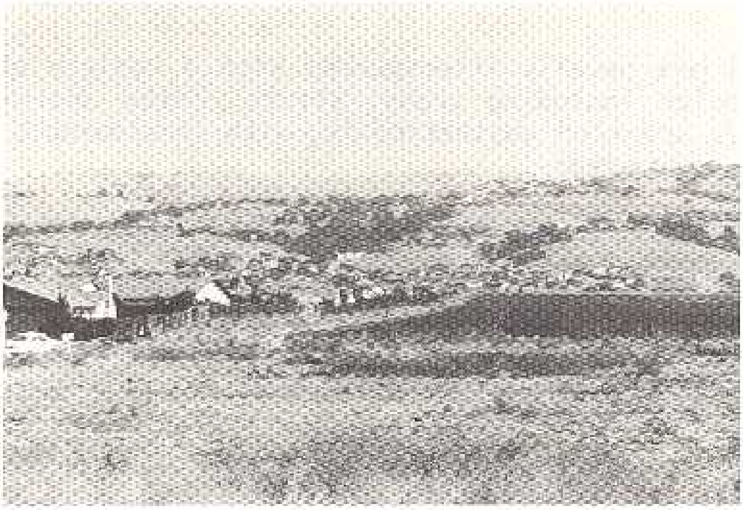
Biological Resources

General: Llagas Creek watershed encompasses a wide variety of biotic communities. The chaparral plant community includes a large portion of the upper watershed and consists of scrub oak, coast live oak, poison oak, manzanita, chamise, California coffeeberry, buckbrush, toyon, coyotebush and various annual grasses. The agricultural community is composed of orchards, vineyards, and vegetable fields. Riparian communities are the only habitats within the floodplain.

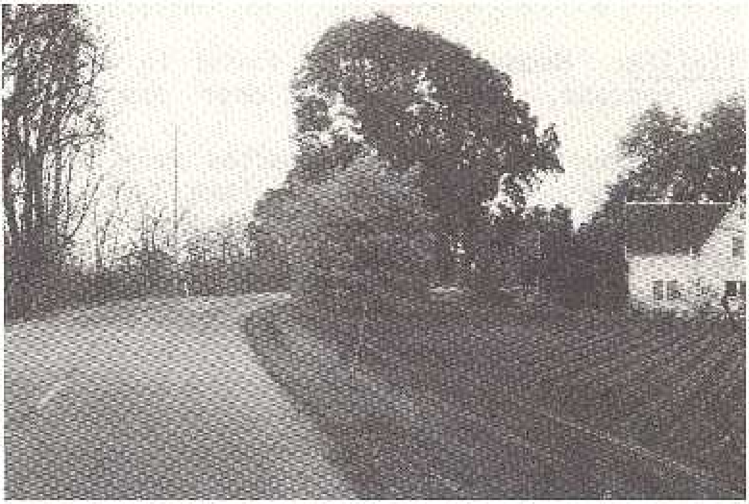
Riparian (Plants): The streamside riparian plant communities vary considerably both visually and in plant species composition. Channel reaches vary from previously excavated earth channels containing little vegetation to relatively undisturbed, diversified, riparian plant communities. Variations between these extremes are found within the watershed (Figure 5).

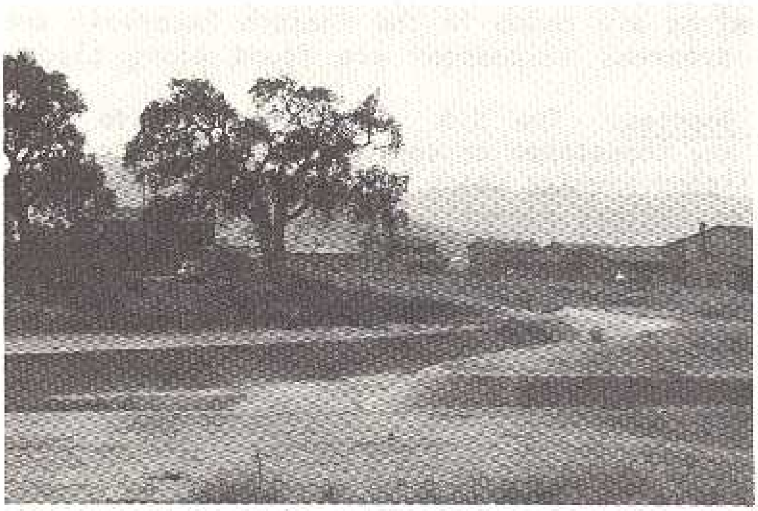
Severely modified channels, depending on how and when the excavation was done, contain varying degrees of vegetative cover. These channels are typically in early stages of plant succession and support a limited variety of young trees, small shrubs, grasses and aquatic plants, such as cattail. Channels generally appear very open with little visual relief in the form of varying plant sizes, shapes, and textures.

The more mature riparian plant communities are dominated by large native trees including California sycamore, valley oak, coast and interior live oak, California black walnut, and cottonwood. Understory trees and shrubs include Mexican elderberry, California buckeye, willow, coyotebush, mulefat, California wild rose, poison oak, California blackberry, and California wild



Land use in the watershed is dominated by agriculture and scattered residences.





Flood water control improvements installed by developers.

Figure 4

grape. These native plants are usually interspersed with a variety of naturalized and introduced species including trees, shrubs, forbs and grasses. These well-vegetated reaches are rich aesthetically, with considerable variation in plant size, texture, and shape.

Fish: Species of fish normally found in Llagas Creek include Sacramento (western) sucker, carp, mosquito fish, hitch, steelhead trout, and goldfish. Chesbro Reservoir contains all the above fish except steelhead which cannot migrate above the dam. It also has three-spined stickleback, western roach, Sacramento squawfish, black bass, bluegill, crappie, bullhead and rainbow trout. Some of these species also inhabit the reaches of Llagas Creek just below the reservoir.

The 1975 hatch of steelhead in Llagas Creek was eliminated by a drought. Spawning was also prevented in 1976 and 1977 by the continuation of the drought. Sampling by Dr. Jerry J. Smith of San Jose State University failed to find evidence of successful spawning in 1978, 1979, and 1980. At this time, it is not known whether natural re-establishment will occur or whether restocking with smolts will be necessary to restore the steelhead fishery.

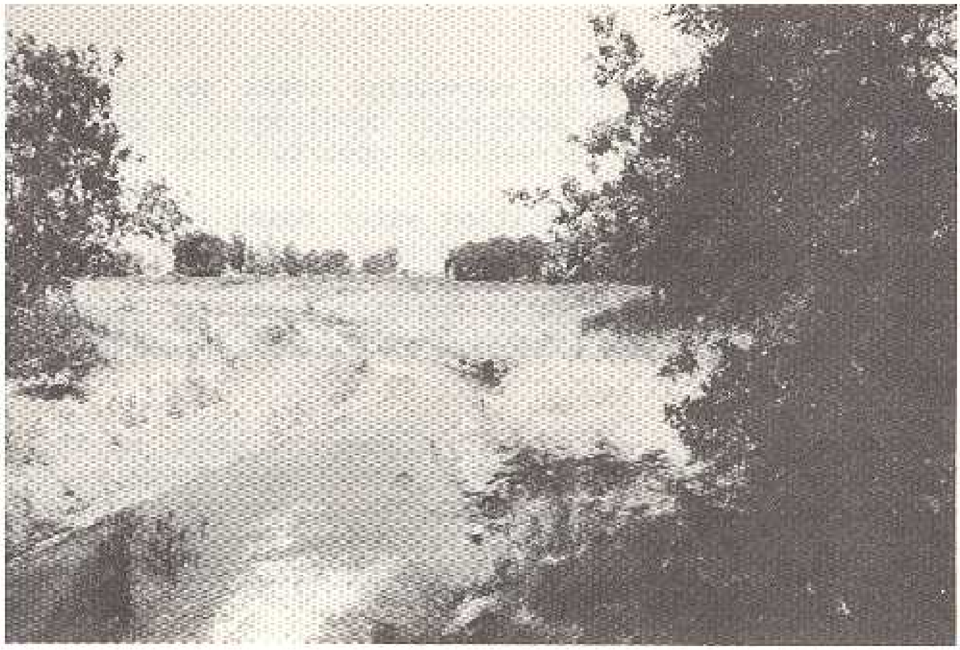
Wildlife: Mammals commonly found in the area include bats, opossum, skunk, fox, raccoon, coyote, rabbit, deer, and various rodents.

Three important predator species rely partially on riparian vegetation for food, cover, and/or nesting sites. These are the red-tailed hawk, the grey fox, and the gopher snake. These species and other predators help control the local rodent populations, including ground squirrels.

Species of birds normally found in the area include the California quail, western meadowlark, red winged blackbird, great blue heron, California scrub jay, brown towhee, acorn and nuttall's woodpeckers, house finch, robin, mockingbird, house wren, mallards, wood duck, redtail hawk, and barn owls. Some of these species depend almost entirely on riparian habitat for food, shelter, shade, nesting and roosting sites. Migratory birds also utilize the area during spring and fall.

Aquatic animals found in the watershed include frogs, newts, and salamanders. The yellow-legged frog, the Pacific treefrog, the western toad, and the California slender salamander occur in the riparian areas. The red-legged frog and the Pacific treefrog are found in the Chesbro Reservoir area. The California newt and the arboreal salamander are found along Llagas Creek.

Threatened and Endangered Species: The U.S. Fish and Wildlife Service was contacted to determine if any threatened or endangered species occurred within the watershed. The only listed species which might occur within the watershed is the San Joaquin kit fox (*Vulpes macrotis mutica*). They also stated that the following proposed and candidate plants for the endangered species list might occur within the watershed: Coyote Creek ceanothus (*Ceanothus ferrisae*); Santa Cruz tarweed (*Holocarpha macradenia*); Metcalf Canyon jewel flower (*Streptanthus albidus albidus*); and Mount Hamilton thistle (*Cirsium campylon*).



Streamside vegetation ranges from bare earthen channels to mature riparian communities, with variations between these extremes.

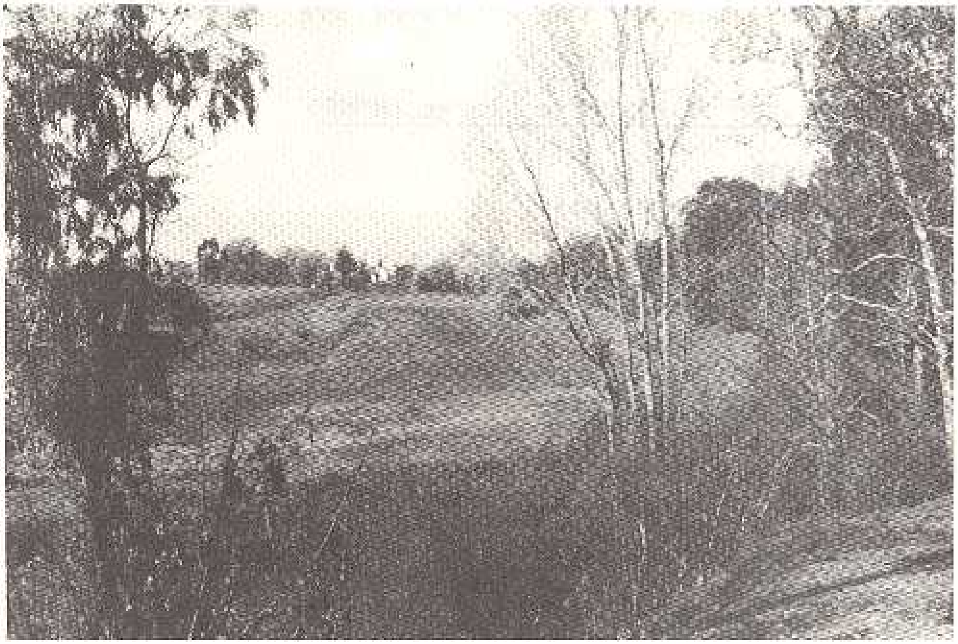


Figure 5

Recreational Resources

A system of 30 parks and public recreation areas now serves Santa Clara County. Some are scheduled for additional development to accomodate expected future increases in demand for recreational opportunities.

Chesbro Reservoir is the only existing water based recreation area in the Llagas Creek watershed. Designated as a county park, the reservoir provides opportunities for sailing, rowing, canoeing, and fishing. The 528-acre park is considered undeveloped. A Plan of Regional Parks for Santa Clara County, adopted in 1972, calls for the expansion of the park by public acquisition of 200 additional acres.

The Regional Parks, Trails and Scenic Highways element of the 1980 County General Plan proposes that the main branch of Llagas Creek be developed as a streamside park and trail system. The city of Morgan Hill has developed a Park Master Plan. The plan finds parks lacking in the city and is recommending a streamside park along West Little Llagas Creek between Monterey Highway and Santa Teresa Boulevard.

Cultural Resources

Many items of archeological and historical interest are located in southern Santa Clara County; some of these lie within the Llagas Creek watershed (1, 2, 3, 4, 5, 6). Five sites in the watershed are listed on various historic registries (6):

National Register of Historic Places (NRHP)

Gilroy City Hall
Villa Mira Monte, Morgan Hill

California State Historical Landmark

Vasquez tree and site of 21-mile house, Morgan Hill

Point of Historical Interest

Machado School, Morgan Hill
San Juan Bautista de Anza campsite, between Morgan Hill and San Martin

Other items of cultural interest that are located within or adjacent to the proposed construction areas are as follows:

-- Scattered remains of migrant workers' camps along Llagas Creek between Pacheco Pass Highway and Bloomfield Avenue. These do not appear well enough preserved to make further study profitable (3).

-- The Gilman Road bridge over Llagas Creek. This is a single-span, triple-parabolic arched, reinforced-concrete bridge, built in 1911. It is currently being nominated to the Santa Clara County Historical Heritage Inventory and is identified as a significant cultural resource in the

County's General Plan. The Secretary of the Interior has determined that it is eligible for the National Register of Historic Places. However, it does not meet current traffic safety requirements and it is eligible for replacement under the Federal Highway Bridge Replacement and Rehabilitation Program (9). The County of Santa Clara intends to apply to the Federal Highway Administration for funds to replace the bridge under this program.

-- The Leavesley Road bridge over Llagas Creek. This is not believed to be significant (5).

-- Sites CA-SCl-400, CA-SCl-401, and Llagas-3, located along Llagas Creek in Reach 4. These sites are not believed to be significant (5).

-- Site CA-SCl-402, located along Llagas Creek in Reach 4. The archeologist who inspected this site believes it to be potentially significant (5).

-- A number of old wooden irrigation flumes at various locations along Llagas Creek in Reaches 5 and 6. These are not believed worthy of further attention (3).

-- The site of the Vasquez tree and 21-mile house, near the intersection of Monterey Highway and Edmundson Avenue in Morgan Hill. Both the tree and the State Historical Landmark plaque were removed sometime within the last 18 years.

-- The Edmundson Avenue bridge over West Little Llagas Creek. This bridge is not believed eligible for the NRHP, but is of some interest to local historians (5).

-- Two barns in Morgan Hill, one at 25 Dunne Avenue and the other at the corner of Monterey Avenue and West Fifth Street.

-- A victorian house at 17415 Del Monte in Morgan Hill.

-- Three small outbuildings resembling carriage houses, along West Second Street in Morgan Hill.

-- The Virgil Moniz house, immediately adjacent to Little Llagas Creek, on Hale Avenue in Morgan Hill.

-- The Farrell Avenue box culvert on the West Branch of Llagas Creek. It is not believed to be eligible for the NRHP, but is of some interest to local historians (5).

Items of interest that would be affected by some of the alternatives discussed in this EIS, but not by the planned project, include the following:

-- Site CA-SCl-452, located along East Little Llagas Creek in Reach 14. The archeologist who inspected this site believes it to be potentially eligible for the NRHP (5).

-- Sites 4-SCl-52, 223, 224, 245, and 246, located at Chesbro Reservoir. An archeologist who studied these sites believes that with the possible exception of 4-SCl-245, these sites are believed potentially eligible for the NRHP (4).

-- Bridges over Llagas Creek at Buena Vista Avenue, Rucker Avenue, Church Avenue, San Martin Avenue, Llagas Avenue, and Monterey Highway.

In addition to these specific areas, prehistoric artifacts and other traces have been found at various locations along the creeks. These indicate that Reaches 2, 3, 4, and 14 downstream of Corralitos Creek may be especially sensitive (5).

Formulation of Alternatives

Analysis of the many written questions and concerns on the previous Draft EIS began in late 1979. Areas of major concern were urbanization of the south Santa Clara Valley, the level of flood protection including design, size, and extent of flood control channels, cost and economic justification, raising Chesbro Dam, impacts on riparian vegetation, fish and wildlife, maintenance procedures and use of herbicides, linear park chain, ground water recharge, and adequacy of the Draft EIS/EIR. The severity of the concerns warranted a restudy. The objectives were to (1) take the concerns into account, (2) meet the primary objective of flood control, and (3) stay within current state and federal policies and guidelines. These policies and guidelines revolve around insuring that benefits exceed costs and minimizing environmental impacts.

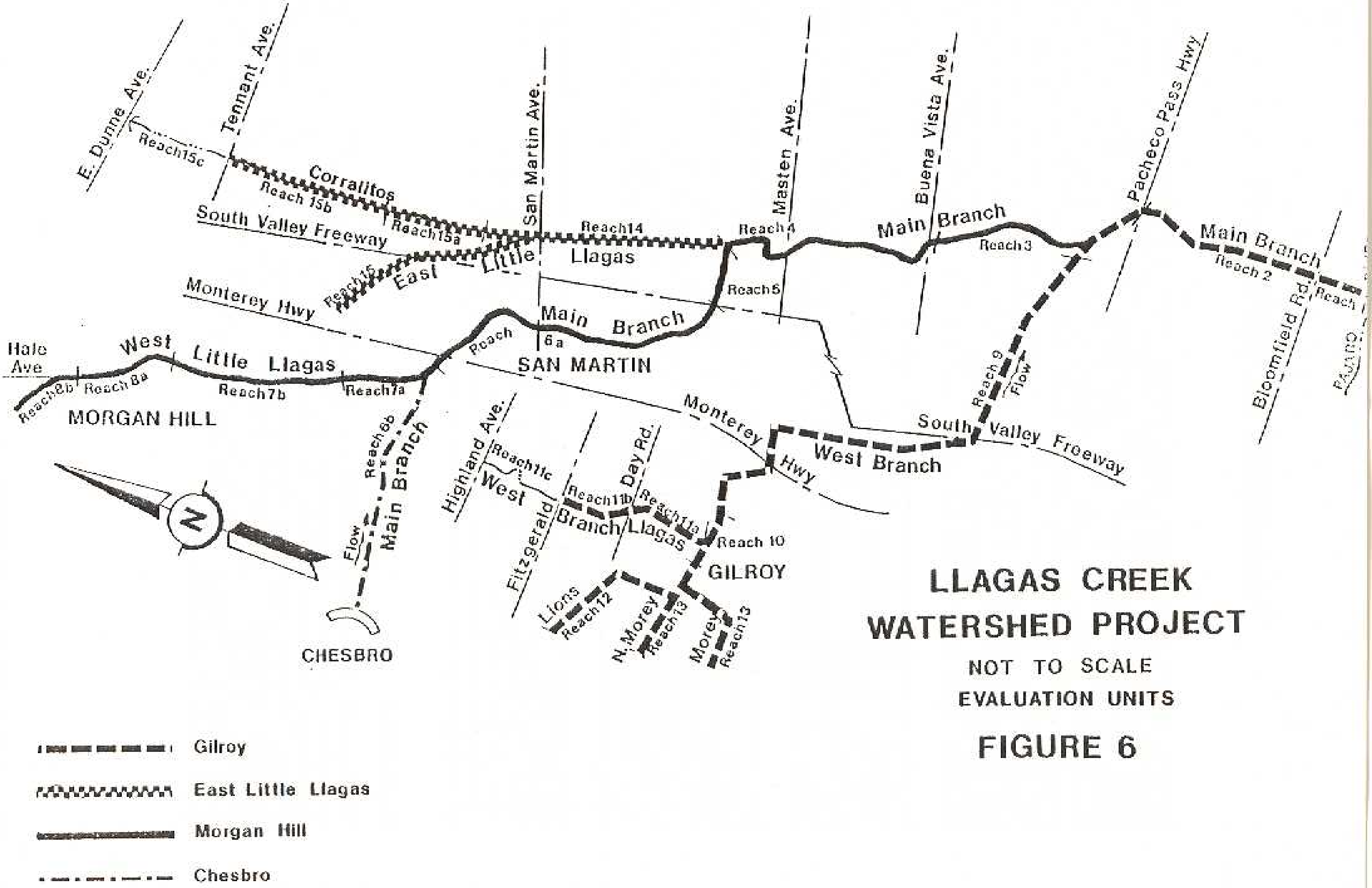
An array of study cases was developed to address the concerns. These included changing the level of protection from 1 percent to 10 percent in the rural areas or limiting work in undeveloped areas to that necessary to prevent additional flooding over present conditions in areas downstream of proposed work. Also several methods of construction and designs were considered to obtain the most economical means of flood control.

The restudy evaluated the watershed based on 1980 conditions and costs. Damages were recalculated using (1) flood flows based on the Federal Insurance Administration (FIA) Flood Insurance Study conducted by a private consulting firm (Nolte and Associates), (2) current land use and buildings in the floodplain, and (3) county and city general plans to determine future conditions. To analyze the effects of various alternatives, the floodplain was divided into four evaluation units (Figure 6). Costs and benefits were calculated using these evaluation units.

The excavation done by CALTRANS has modified flooding patterns. Measures to mitigate flooding induced in Reaches 3 and 4 by this work are included in those alternatives that would not otherwise provide additional flood protection in these reaches. The alternatives formulated include No Project, Nonstructural, and Structural. The following discussion describes various ways of dealing with the remaining flood damages.

No Project

The channel rights-of-way needed for additional work would remain in private ownership. Removal of riparian habitat would probably only occur through individual landowner efforts to maintain the channel or by other local efforts, without federal assistance. The average annual flood damages to existing agricultural and urban developments estimated at $917,300 would continue to occur. The 1 percent event would damage 708 buildings and 3,300 acres of cropland. The 10 percent event would damage 311 buildings and 1,400 acres of cropland.



LLAGAS CREEK
WATERSHED PROJECT
NOT TO SCALE
EVALUATION UNITS

FIGURE 6

Nonstructural Plan

The County of Santa Clara and the cities of Morgan Hill and Gilroy are participating in the National Flood Insurance Program. As part of this participation, they have adopted ordinances requiring all new construction to have its first floor elevation above the level of the 1 percent flood. Continuation of this program will assure that buildings constructed in the future will not be subject to interior flooding. Existing structures will still be susceptible.

A flood warning and preparedness plan could be applied to the flood zone. This plan would predict when and where a flood would occur, and would be designed to evacuate residences before floodwater reaches hazardous levels. This measure may prevent loss of life and allow removal of building contents, but damages to structures would continue to occur, along with the cost of cleanup.

At present, the portions of the floodplain in Gilroy and Morgan Hill are intensively developed and include residential, commercial, educational, and industrial buildings. Individual floodproofing of all 423 buildings susceptible to flooding in these two cities is impractical because of the location and type of building construction. The cost of acquiring and relocating the buildings is prohibitive. For these reasons, a totally nonstructural solution was dropped from further consideraton. However, a potential nonstructural solution was considered as a component of the selected plan.

Structural Plans for Additional Flood Protection

The following alternatives consist of structural solutions to reduce flooding. Each alternative also includes mitigation measures to reduce or compensate for the environmental damages that would occur.

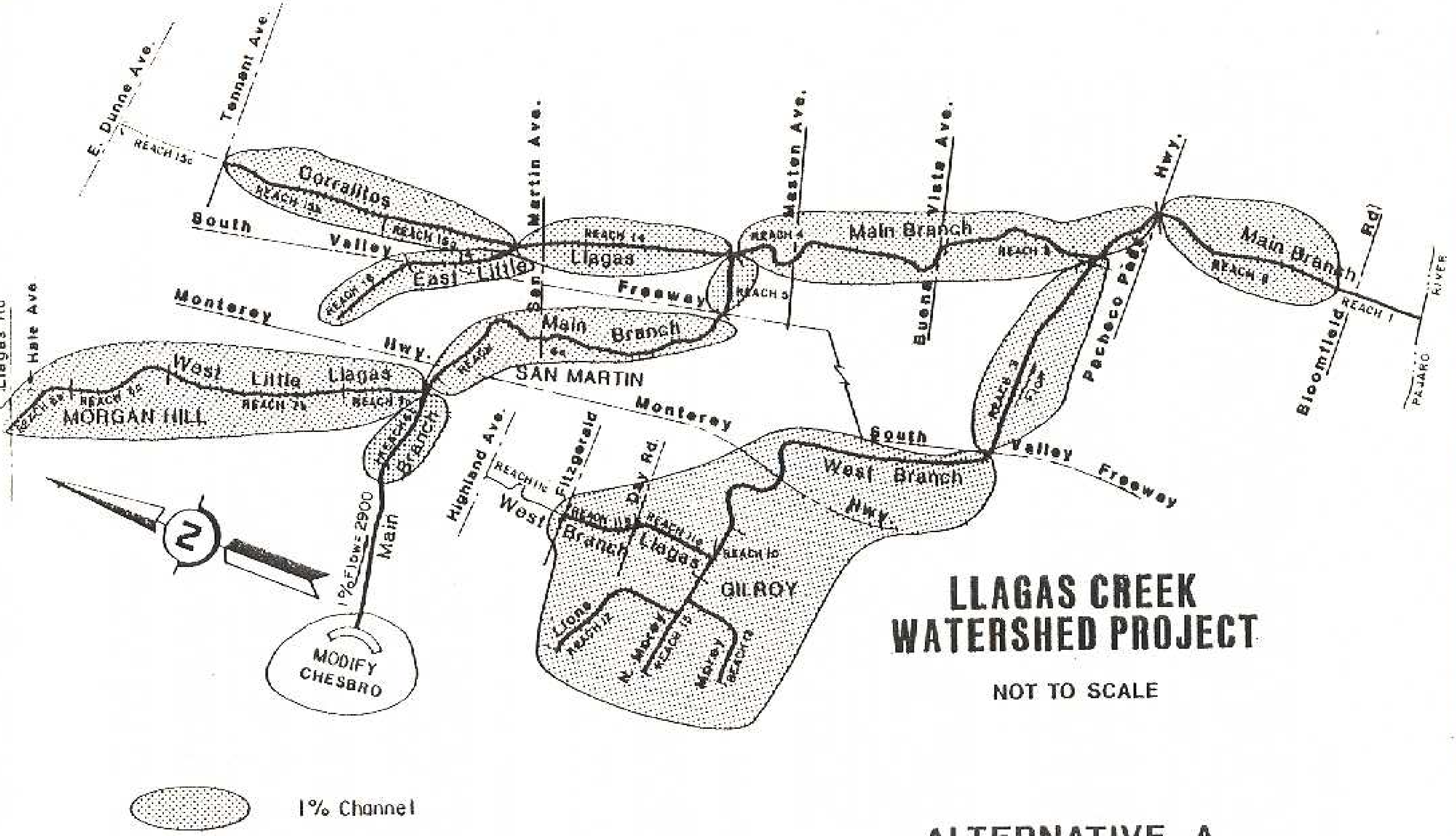
Alternative A: This alternative (Figure 7) would consist of modifying an existing reservoir and channel system to provide protection from the 1 percent event.

Structural measures would include:

(1) Modification of Chesbro Dam and Reservoir.
(2) Excavated earth channel along 23.6 miles of creek. (Reaches 2, 3, 4, 5, 7a, 7b, 8b, 9, 11a, 11b, 12, 13, 14, 15a, 15b, 16)
(3) Retangular reinforced concrete lined channel for 1.0 mile of creek. (Reach 8a)
(4) Construction of 4.1 miles of new channel. (Reaches 10, 12, 13, 17a)
(5) Construction of levees along 4.2 miles of Llagas Creek. (Reaches 6a, 6b)

Modification of Chesbro Dam would add an additional 550 acre-feet of storage to the reservoir by raising the spillway two feet. The top of the dam would be raised to contain the probable maximum flood. An operational agreement would assure that adequate storage would be available to limit outflow to 2,900 cubic feet per second (cfs) during a 1 percent event.

Channel work would involve several different types of construction. These would include: 4.4 miles of channel excavated from one side leaving riparian



LLAGAS CREEK
WATERSHED PROJECT

NOT TO SCALE

ALTERNATIVE A

FIGURE 7

vegetation on the opposite bank; 18.7 miles of trapezoidal channel excavated from both sides; 4.2 miles of trapezoidal excavated channel with bank protection; 1 mile of rectangular reinforced concrete lined channel. In the leveed reach, the existing channel would be preserved.

Approximately 27 grade stabilization structures would be provided. These would be concrete drops and rock chutes. Structures in the main channel would be designed to permit passage of migrating fish and would include fish ladders and low flow channels. Drainage inlets would be provided to allow local drainage and storm runoff to enter the channels. Thirty-eight existing bridges and 25 box culverts would be replaced and two existing fords would be improved.

Channel rights-of-way would include the estimated width of the channel, and an 18-foot-wide maintenance road and a collector ditch on each side of the channel. For those portions that have levees, rights-of-way would include levees, the floodplain and creek between the levees, maintenance roads, and collector ditches.

Works of improvement would require the purchase of 547 acres of right-of-way, and would necessitate the removal of nine residences. Riparian vegetation removal would amount to 34 acres. The cost includes all mitigation features required to replace lost habitat.

The estimated installation cost of this alternative would be $61,992,100. The remaining floodplain affected by a 1 percent event would be approximately 280 acres. Average annual damages which would be prevented are estimated to be $913,100; remaining average annual damages would be $4,200.

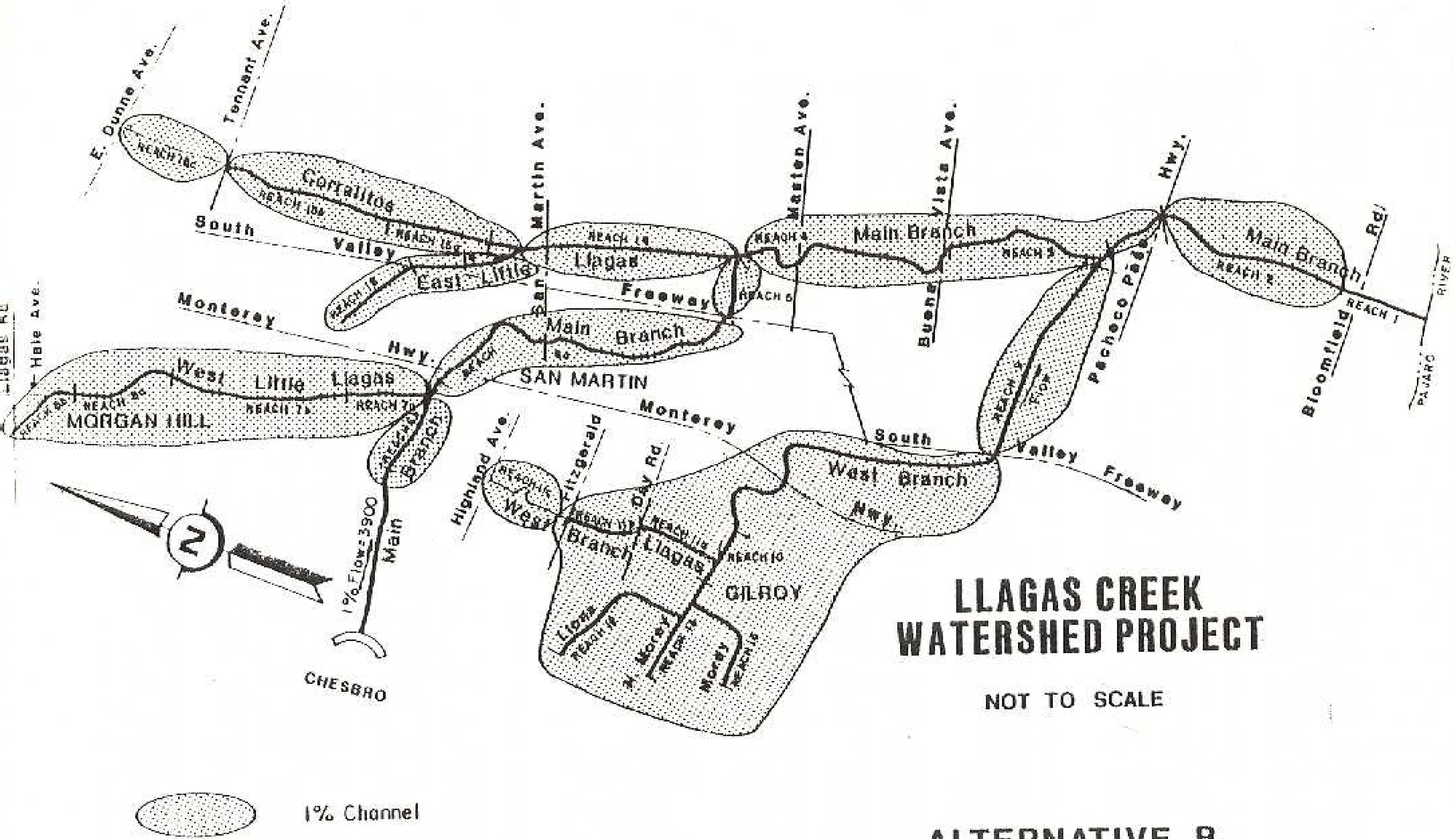
Alternative B: This alternative (Figure 8) would consist of deleting Chesbro Dam and Reservoir from Alternative A and adding two sections of channel work. These two channel reaches would extend from Tennant Avenue to East Dunne Avenue on Corralitos Creek and from Fitzgerald Road to Highland Avenue on West Branch Llagas Creek. This alternative would provide protection from a 1 percent event except along the channel from Chesbro to Reach 6B.

Structural measures would include:

(1) Excavated earth channel along 24.8 miles of creek. (Reaches 2, 3, 4, 5, 7a, 7b, 8b, 9, 11a, 11b, 11c, 12, 13, 14, 15a, 15b, 15c, 16)
(2) Reinforced concrete lined channel for 1.0 mile of creek. (Reach 8a)
(3) Construction of 4.1 miles of new channel. (Reaches 7a, 10, 12, 13)
(4) Construction of levees along 4.2 miles of Llagas Creek. (Reaches 6a, 6b)

Associated with the channel work would be installation of 28 grade stabilization structures. Structures in the main channel would include fish ladders to permit passage of migrating fish. A low flow channel would be installed in main Llagas Creek. Drainage inlets would be provided to allow local drainage and storm runoff to enter the channels. Forty bridges and 25 box culverts would be replaced and two existing low water crossings improved.

The works of improvement would require the purchase of 573 acres of rights-of-way and the removal of nine residences. Thirty-eight acres of riparian vegetation would be removed. The cost includes all mitigation features required to replace lost habitat.



ALTERNATIVE B
FIGURE 8

The estimated installation cost of this alternative would be $63,017,400. The remaining floodplain affected by a 1 percent event would be approximately 180 acres. Average annual damages which would be prevented are estimated to be $916,100; remaining average annual damages would be $1,200.

Alternative C: This alternative (Figure 9) would consist of installing channels and levees to handle the 1 percent event in the urban areas of Gilroy and Morgan Hill and on main Llagas Creek below the urban centers. No additional flood protection would be afforded to other areas in the watershed.

Structural measures would include:

(1) Excavated earth channel along 15.8 miles of creeks. (Reaches 2, 3, 4, 5, 7a, 7b, 8b, 9, 11a, 11b, 12, 13)
(2) Reinforced concrete lined channel for 1.0 mile. (Reach 8a)
(3) Construction of 4.1 miles of new channel. (Reaches 7a, 10, 12, 13)
(4) Construction of levees along 4.2 miles of Llagas Creek. (Reaches 6a, 6b)

Associated with the channel work would be the installation of 21 grade stabilization structures. Structures in the main channel would be designed to permit passage of migrating fish and would include fish ladders and low flow channels. Drainage inlets would be provided to allow local drainage and storm runoff to enter the channels. Thirty-six bridges and 13 box culverts would be replaced.

The works of improvement would require the purchase of 370 acres of rights-of-way and the removal of eight residences. Thirty-two acres of riparian vegetation would be removed. The cost includes all mitigation features required to replace lost habitat.

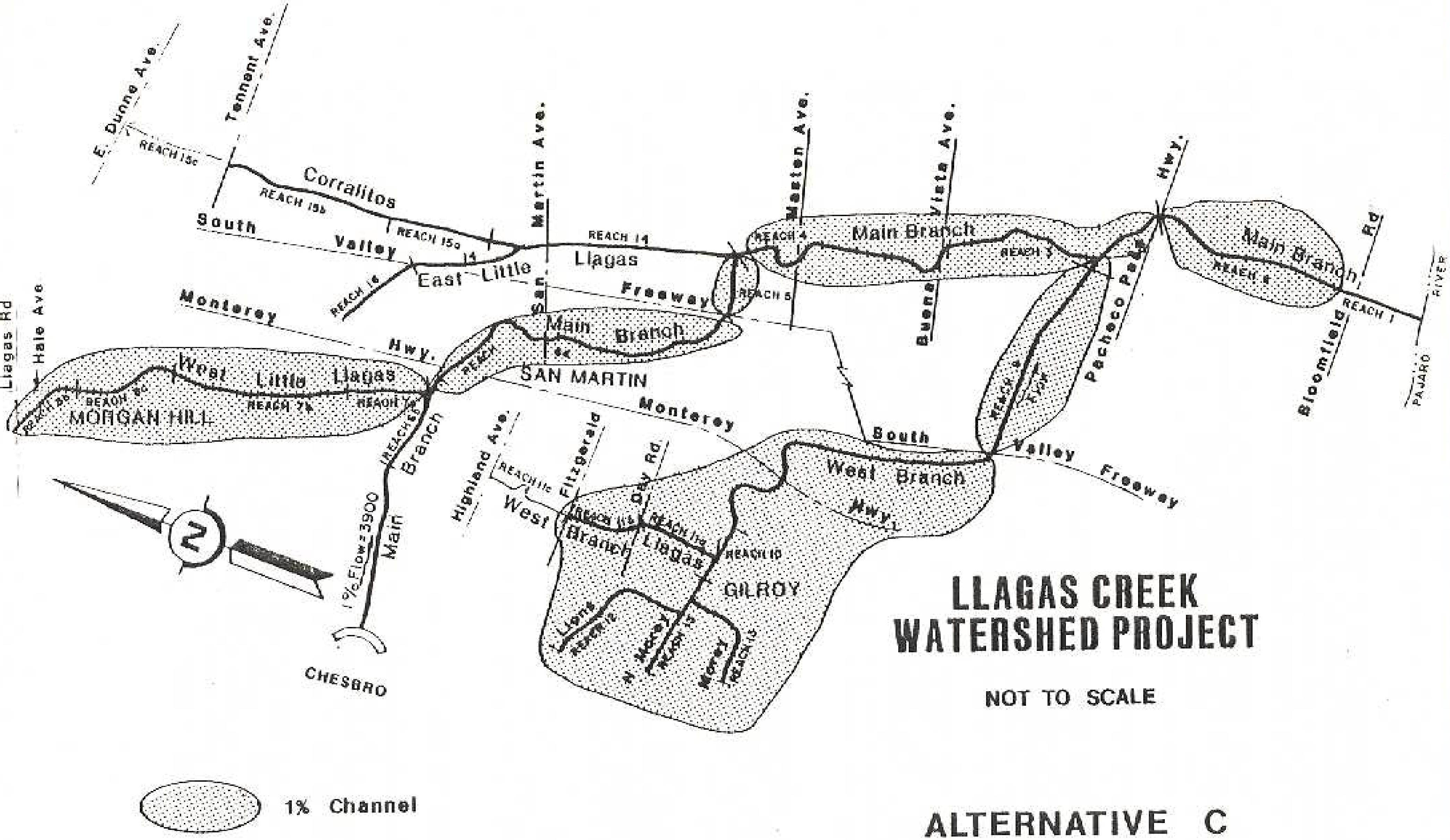
Estimated installation cost of this alternative would be $51,954,700. The remaining floodplain affected by a 1 percent event would be approximately 880 acres. Average annual damages which would be prevented are estimated to be $889,000; remaining average annual damages would be $28,300.

Alternative D: This alternative (Figure 10) would consist of installing channels to control runoff from a 1 percent event in Morgan Hill and Gilroy and to control a 10 percent event in all other areas described in Alternative B.

Structural measures would include:

(1) Excavated earth channel along 29.0 miles of creeks. (Reaches 2, 3, 4, 5, 6a, 6b, 7a, 7b, 8b, 9, 11a, 11b, 11c, 12, 13, 14, 15a, 15b, 15c, 16,)
(2) Reinforced concrete lined channel for 1.0 mile of creek. (Reach 8a)
(3) Construction of 4.1 miles of new channel. (Reaches 7a, 10, 12, 13)

Associated with the channel work would be the installation of 28 grade stabilization structures. Structures in the main channel would be designed to permit passage of migrating fish and would include fish ladders and a low flow channel. Drainage inlets would be provided to allow local drainage from storm runoff to enter the channels. Thirty-eight bridges and 24 box culverts would be replaced.



LLAGAS CREEK WATERSHED PROJECT

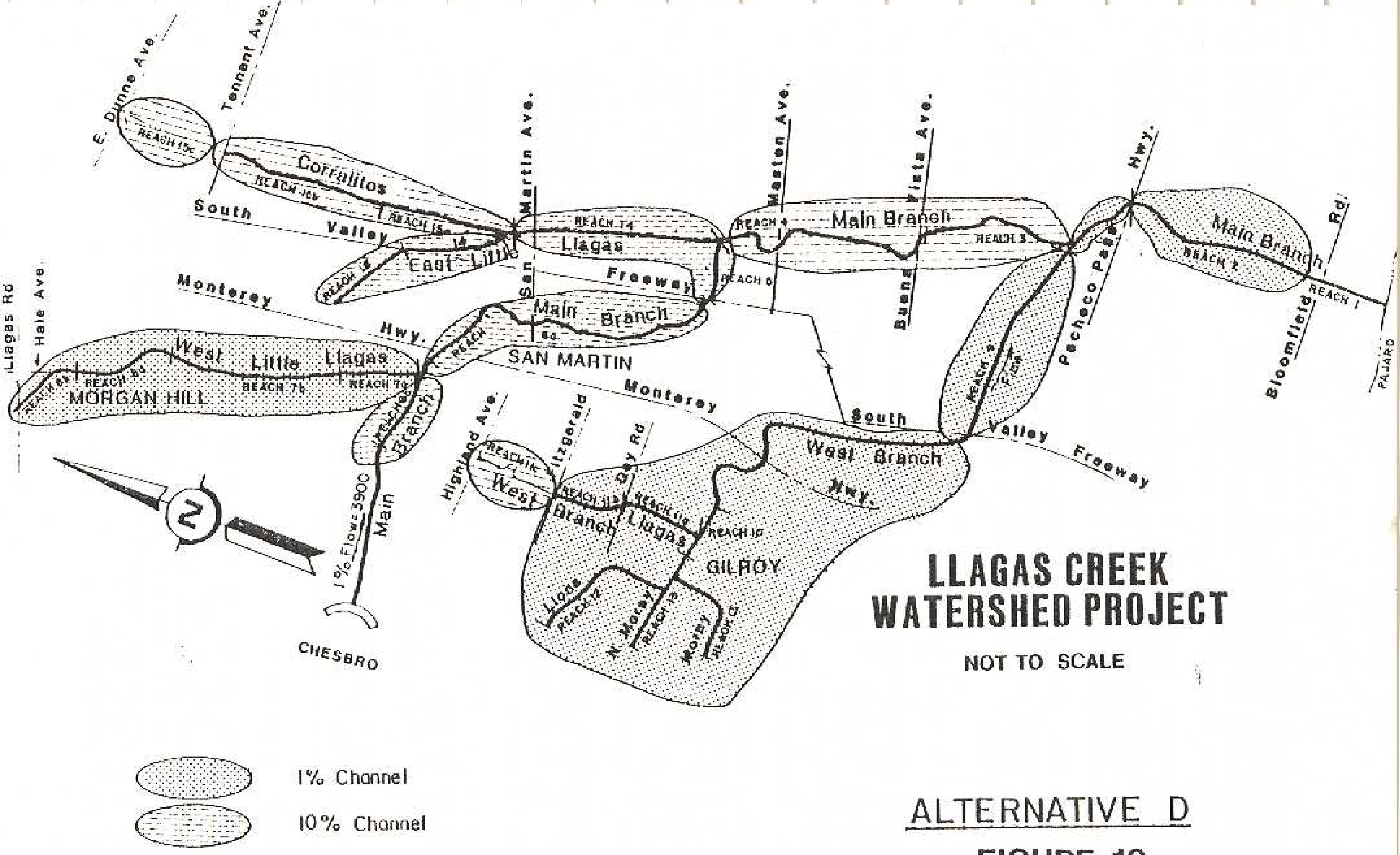
NOT TO SCALE

ALTERNATIVE C

FIGURE 9

LLAGAS CREEK WATERSHED PROJECT

NOT TO SCALE



ALTERNATIVE D

FIGURE 10

Works of improvement would require the purchase of 397 acres of rights-of-way and the removal of seven residences. Installation of the project would require the removal of 38 acres of riparian vegetation. The cost includes all mitigation features required to replace lost values.

Estimated installation cost of this alternative would be $50,377,700. The remaining floodplain affected by a 1 percent event would be approximately 1,490 acres. Average annual damages which could be prevented are estimated to be $887,900; remaining average annual damages would be $29,400.

Alternative E: This alternative (Figure 11) would consist of channel work to control runoff from a 1 percent event in Morgan Hill and Gilroy and limiting the downstream channel work to contain increased flows caused by upstream channel modification.

Structural measures would include:

(1) Excavated earth channel along 7.8 miles of creeks. (Reaches 2, 3, 4, 7a, 7b, 8b, 9, 10, 11a, 11b, 12, 13)
(2) Reinforced concrete lined channel for 1.0 mile of creek. (Reach 8a)
(3) Construction of 4.1 miles of new channel. (Reaches 7a, 10, 12, 13)
(4) Selective clearing of vegetation and debris removal on 5.2 miles of creek. (Reaches 4, 6a)

Associated with the channel work would be the installation of 11 grade stabilization structures. Structures on the main channel would be designed to permit passage of migrating fish including fish ladders and a low flow channel in main Llagas Creek. Drainage outlets would be provided to allow local drainage and storm runoff to enter the channels. Nineteen bridges and 15 box culverts would be replaced.

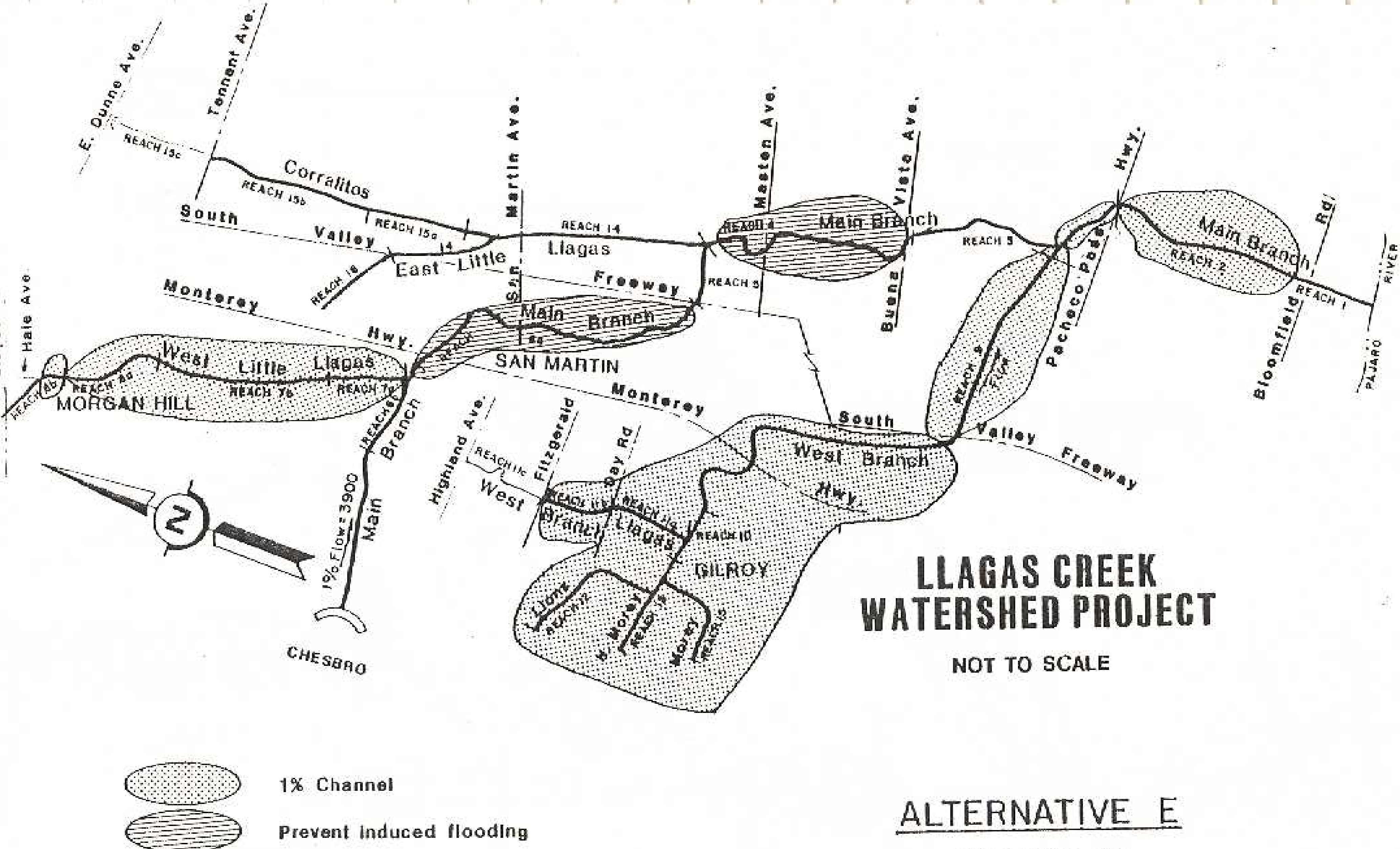
Works of improvement would require the purchase of 335 acres of rights-of-way and the removal of four residences. The project would require the removal of 19 acres of riparian vegetation. The cost includes all mitigation features required to replace lost habitat.

The estimated cost of this alternative is $24,098,000. The remaining floodplain affected by the 1 percent event would be approximately 2,580 acres. Average annual damages which would be prevented are estimated to be $842,400; remaining average annual damages would be $74,900.

Alternative F: This alternative (Figure 12) would consist of providing the same level of protection as Alternative E, except work would be excluded between Day Road and Fitzgerald Avenue.

Structural measures would include:

(1) Excavated earth channel along 5.5 miles of creeks. (Reaches 2, 4, 7a, 7b, 8b, 9, 10, 11a, 12, 13)
(2) Reinforced concrete lined channel for 1.0 mile of creek. (Reach 8a)
(3) Construction of 4.1 miles of new channel. (Reaches 7a, 10, 12, 13)
(4) Selective clearing of vegetation and debris removal on 5.2 miles of creek. (Reaches 4, 6a)
(5) Levee along 0.8 miles of channel. (Reach 9)

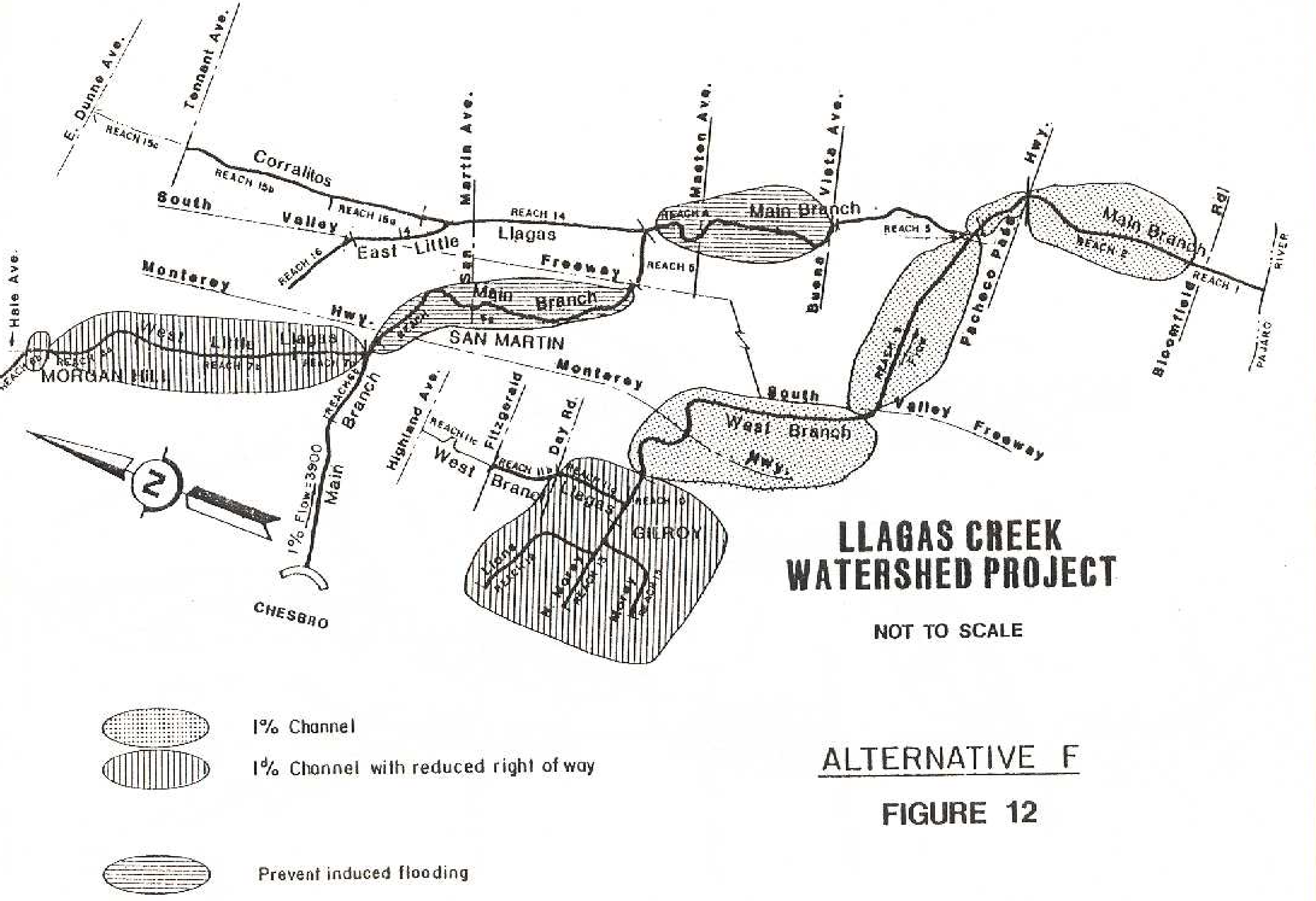


LLAGAS CREEK WATERSHED PROJECT

NOT TO SCALE

ALTERNATIVE E

FIGURE 11



LLAGAS CREEK WATERSHED PROJECT

NOT TO SCALE

ALTERNATIVE F

FIGURE 12

Features associated with the channel work such as low flow channels, drainage outlets and bridges would be the same as Alternative E. There would be ten grade stabilization structures. Changes in design to reduce cost include:

(1) Reduced channel rights-of-way by eliminating one maintenance road along the channel and constructing access ramps to the channel bottom for operation and maintainance.
(2) Use of a levee instead of an excavated channel in Reach 9.
(3) Elimination of fencing except along the concrete channel and hazardous areas.

Works of improvement would require the purchase of an additional 171 acres of rights-of-way in fee simple title or permanent flood control easements, and the relocation of two residences. Installation of the project would require the removal of 19 acres of riparian vegetation. The cost includes all features required to mitigate lost habitat.

The alternative would cost $21,967,000 to install. The remaining floodplain affected by a one percent event would be approximately 2,820 acres. Average annual damages which would be prevented are estimated to be $834,300; remaining average annual damages would be $83,000.

Rationale for Plan Selection

The No Project alternative allows significant flood problems to remain unsolved. For this reason it was generally unacceptable.

The totally nonstructural alternative is impractical. Most of the buildings in the cities cannot be individually floodproofed because of the type of structures. The mix of building types would still necessitate structural measures to eliminate flooding in the cities.

Of the six structural alternatives, only Alternatives E and F have benefits that exceed cost. In Alternatives A through E, only the Gilroy Evaluation Unit (Figure 6) has a favorable benefit/cost ratio. The three other Units (Morgan Hill, East Little Llagas, and Chesbro) do not generate benefits in excess of cost.

In Alternative F, redesign of structural plans for the Morgan Hill Unit reduced cost sufficiently to provide a favorable benefit/cost ratio. Redesigns could not reduce cost enough for the other two units to become feasible.

The Sponsors and SCS recommended Alternative F with the addition of works to prevent flooding induced by the CALTRANS work (Table 7), as the alternative that came closest to satisfying the concerns about the 1979 plan (Table 8). This alternative was reviewed with the public at two workshops. Participants reached a consensus agreeing with the selection of Alternative F plus mitigation for past CALTRANS work.

However, some residents along Reaches 4 and 15 expressed concern about continuation of problems in unprotected areas. As a result, the 76 buildings in the rural area still subject to flood damage with Alternative F were screened for eligibility for nonstructural flood protection (Table 9).

Nonstructural measures considered included floodproofing of individual buildings and elevating or diking individual structures. These measures were tested and found economically feasible. The estimated installation cost for protecting the 76 buildings is $424,000. These measures would prevent interior damages only. All other damages would continue. Average annual damages which could be prevented would be an additional $98,000.

Residents and building owners were contacted for their receptiveness to participating in this part of the project. The response to these inquires was too low to warrant including this as part of the selected plan.

A comparison with other alternatives shows that Alternative F:

1. Offers a high level of damage reduction, has the lowest structural measures costs, and has benefits that exceed cost.
2. Provides protection to both urban centers.
3. Disturbs the smallest acreage of riparian habitat and mitigates fish and wildlife losses.
4. Minimizes land required for rights-of-way.
5. Minimizes the number of residences removed.
6. Minimizes adverse effects on cultural resources.
7. Does not preclude installation of linear parks/trails by some agency other than the Sponsors.
8. Mitigates flooding induced by previous CALTRANS excavations and does not induce flooding elsewhere.

Table 7

Features of Alternatives

Item	Units	A	B	C	D	E	(Selected Plan)[1] F
Chesbro Dam		1	0	0	0	0	0
Excavated Earth Channel	Miles	27.7	28.9	19.9	33.1	11.9	9.6
Reinforced Concrete Lined Channel	Miles	1.0	1.0	1.0	1.0	1.0	1.0
Modified Floodplain (levees)	Miles	4.2	4.2	4.2	0	0	0
Levees	Miles	0	0	0	0	0	0.8
Channel Grubbing, Debris, and Restriction Removal	Miles	0	0	0	0	5.2	5.2
Grade Stabilization Structures	No.	27	28	21	28	11	10
Bridges	No.	36	40	34	40	21	18
Box Culverts	No.	25	25	13	25	15	15
Riparian Habitat Removed	Acres	34	38	32	38	19	19
Rights-of-way to be Acquired	Acres	547	573	370	397	335	171
Cost	Dollars	61,992,100	63,017,400	51,954,700	50,377,700	24,098,000	21,967,000

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[1] Does not include 2.3 miles of channel work in Reach 4 and replacement of 2 bridges in Reach 3, costing $1,837,000, for prevention of flooding induced by previous work.

Table 8

Comparison of Alternatives

Economic, Environmental or Social Factor	A	B	C	D	E	(Selected Plan) F
PREVENTING INDUCED FLOODING						
Federal Installation Cost ($)	0	0	0	0	497,400[1]	497,400[1]
Other Installation Cost ($)	0	0	0	0	1,340,000[1]	1,340,000[1]
Average Annual O&M Cost ($)					6,000[1]	6,000[1]
ADDITIONAL FLOOD PREVENTION						
Federal Installation Cost ($)	41,857,500	42,178,500	37,147,100	33,621,200	15,168,000	13,347,000
Other Installation Cost ($)	20,134,600	20,838,900	14,807,600	16,756,500	8,930,000	8,620,400
Average Annual Installation Cost ($)	2,100,300	2,135,000	1,760,200	1,706,800	816,400	744,200
Average Annual O&M Cost ($)	83,900	88,600	66,500	88,600	47,300	43,200
Total Average Annual Cost ($)	2,184,400	2,223,600	1,826,700	1,795,400	863,700	787,400
Percent Damage Reduction						
Urban	99.9	99.9	97.8	99.2	97.5	97.1
Agricultural	94.9	99.9	87.1	70.9	33.5	24.0
Average Annual Benefits ($)	1,058,600	1,062,900	1,027,700	1,014,200	965,400	941,100
Net Benefits ($)	-1,125,600	-1,160,700	-799,000	-781,200	101,700	153,700
Benefit/Cost Ratio	0.5:1	0.5:1	0.6:1	0.6:1	1.1:1	1.2:1
Level of Protection	1% Urban and Agricultural	1% Urban and Agricultural	1% Urban 1% Main Branch	1% Urban 10% Agric.	1% Urban	1% Urban
Remaining Buildings Flooded (#)	7	7	66	93	139	152
Remaining Floodplain (1%) (ac.)	280	180	880	1,490	2,500	2,020
Additional rights-of-way needed (ac.)	547	573	370	397	335	171
Residences Relocated	9	9	8	7	4	2
Riparian Habitat Removed (ac.)	34	38	32	38	19	19
Riparian Habitat	Replace with mitigation	Replace with mitigation	Replace with mitigation	Replace with mitigation	Replace with mitigation	Replace with mitigation
Steelhead Migration	Maintain with mitigation	Maintain w/mitigation	Maintain w/mitigation	Maintain w/mitigation	Maintain w/mitigation	Maintain w/mitigation
Visual	Replace with mitigation	Replace with mitigation	Replace with mitigation	Replace with mitigation	Replace with mitigation	Replace with mitigation
Cultural Resources Affected	CA-SCl-402 CA-SCl-452 Gilman Road Bridge Chesbro Reservoir Sites	CA-SCl-402 CA-SCl-452 Gilman Road Bridge	CA-SCl-402 CA-SCl-452 Gilman Road Bridge	Gilman Road Bridge	Gilman Road Bridge	Gilman Road Bridge
Linear Park	Possible	Possible	Possible	Possible	Possible Morgan Hill and Gilroy	Possible Morgan Hill and Gilroy

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[1] Costs are charged to benefits accruing from work already installed.

TABLE 9
PROPERTIES THAT COULD BE DAMAGED IN RURAL AND AGRICULTURAL AREAS

Location	Number of Residences	Number of Commercial & Industrial Buildings
Corralitos Creek	9	0
East Little Llagas	16	4
Main Valley (above Buena Vista Avenue to South Valley Freeway)	13	0
West Branch Llagas Creek (above Day Road)	9	4
Below Chesbro Dam	3	0
Lions Creek	0	1
Llagas Creek South of Pacheco Pass Highway	2	15
TOTAL	52	24

Planned Project

Channel Modification

Planned channel modifications include several types of channel work (Figure 13). These include channel excavated from one side leaving riparian vegetation on the opposite bank, a trapezoidal excavated channel, selective grubbing and debris removal, and rectangular reinforced concrete lined channel (Appendix B). Riprap will be placed along some reaches. Oxbows containing valuable riparian vegetation will be preserved and low channel flows will be restored through them.

The following provides a brief description of the proposed channel work.

Reach 2 (2.2 miles). Proposed work is as follows:

-- 1.2 miles of channel excavated from one side leaving riparian vegetation on the opposite bank
-- 0.5 mile excavated trapezoidal riprapped channel on a new alignment
-- 0.5 mile trapezoidal channel excavated from both sides of the existing creek
-- The oxbow at the upstream end will be preserved.

Levees will be modified or reconstructed along 1.2 miles of channel. The sides will be riprapped to varying degrees along the entire length.

Reach 4 (2.3 miles). Proposed work is as follows:

-- 1.5 miles selective gravel, sand bar and vegetative removal within channel banks with minor channel enlargement at restricted sections.
-- 0.8 mile excavation from one side removing gravel, sand bars and vegetation in the bottom. Riparian vegetation on opposite bank will be left.

Reach 6a (3.7 miles). Work on this reach will include selective grubbing, removal of constrictions within the channel, and selective widening of both banks.

Reach 7a (1.6 miles). This reach will be an excavated trapezoidal earth channel with depressed maintenance roads and a rock-lined pilot channel for the first mile.

Reach 7b (0.9 mile). This reach will be excavated earth channel with a depressed maintenance road and a pilot channel.

Reach 8a (1.0 mile). This reach will have a rectangular concrete channel installed.

Reach 9 (0.8 mile). This reach has been excavated by CALTRANS. It will have 0.8 miles of levee installed downstream of the South Valley Freeway (Highway 101), along the southern bank.

Reaches 8b, 10, 11a, 12, and 13 (4.1 miles). These reaches will be excavated unlined trapezoidal earth channels.

Associated Construction Features. Grade stabilization structures (Table 10) will be constructed of concrete with rock protection (Figure 14). The stabilization structures in main Llagas Creek will include fish ladders. Low flow channels will be installed in Reaches 2, 4, and 6a.

TABLE 10
GRADE STABILIZATION STRUCTURES

Stream	Reach	Station	Fish Ladder
Main Llagas	2	133+55	Yes
	2	148+95	Yes
West Branch	9	0+00	No
	9	48+00	No
	9	110+75	No
	10	182+00	No
	11a	182+00	No
Lions Creek	12	220+00	No
	12	268+00	No
West Little Llagas	7a	11+00	No

Drainage outlets will be provided to allow local drainage and storm runoff to enter the channel. Nineteen bridges and 15 box culverts will be installed at road crossings (Table 11).

Potential spoil disposal sites include levees along project channels, other public works projects, and stockpiles in other areas. Spoil disposal will be in accordance with Regulations 40 CFR 230 promulgated pursuant to Section 404(b) of the Clean Water Act of 1977.

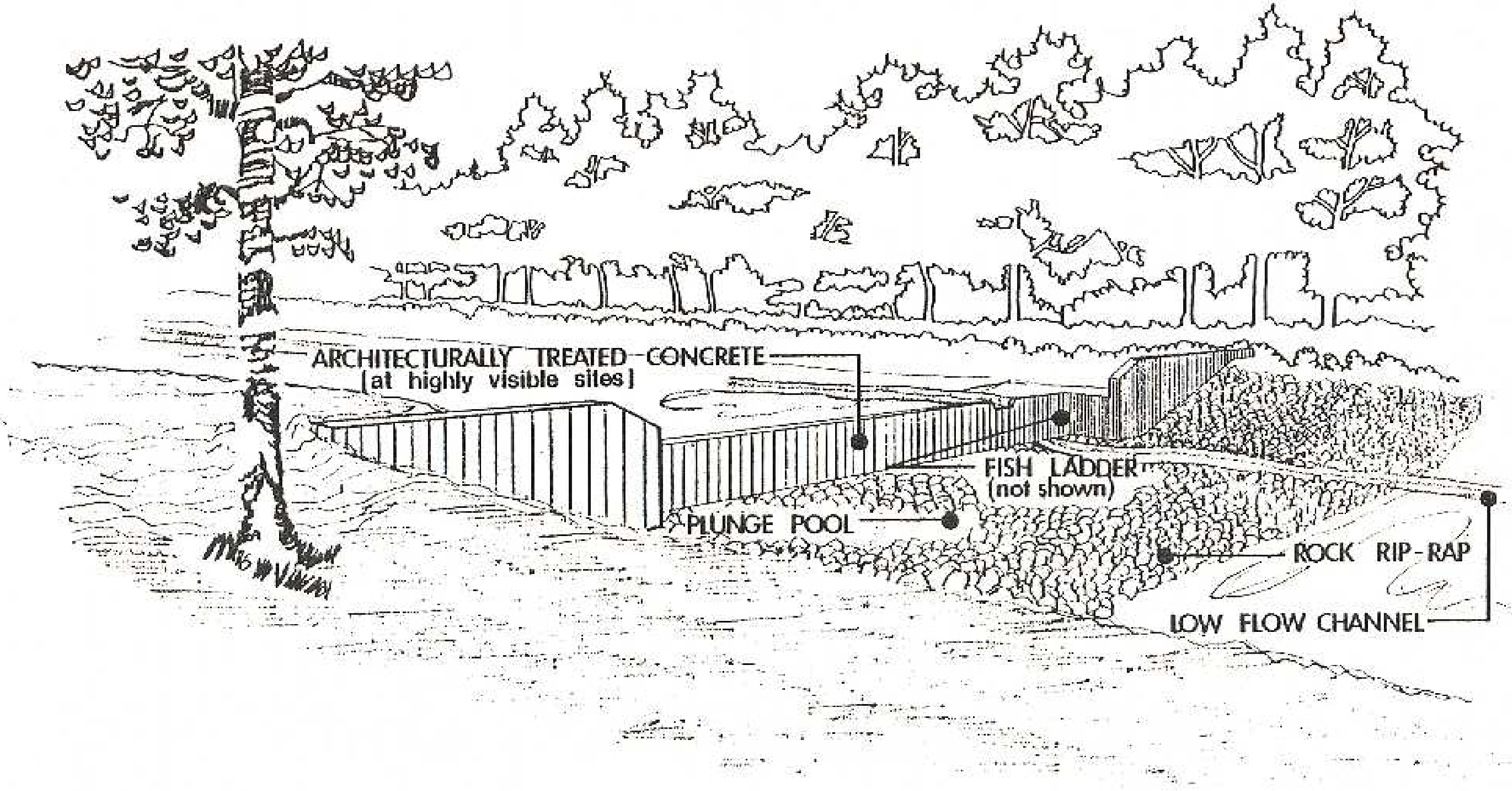
Works of improvement require the purchase of 171 acres of rights-of-way in fee simple title or permanent easements and removal of two residences. In Gilroy, the maintenance road will be along one side of the channel. In Morgan Hill, the maintenance road will be along the bottom of the channel.

Mitigation

The following techniques and features shall be included as part of the planned project (Appendices C and D):

1. Ground cover and trees and shrubs will be established along the Llagas Creek Channels as habitat/landscape plantings to minimize the loss of riparian communities and reduce the aesthetic impacts of the project. Exact locations and plant species to be used will be coordinated with concerned agencies during final design. The plants will be irrigated to insure their establishment.

2. Establishing a low flow channel along one side of the channel bottom to confine low flows for steelhead migration on main Llagas Creek.



GRADE STABILIZATION STRUCTURE – sketch

Figure 14

Table 11

Road Crossings

Reach No.	Station	Type Ownership	EXISTING		PROPOSED		
			Roadway Width	Water Opening	Roadway Width	Water Opening (Span)	Bridge or Reinforced Concrete Box (RCB)
1	30+40	County	50'	50'	30'	220'	Bridge
2	127+40	Gilroy	13'	72'	14'	260'	Bridge
	182+00	State (Pacheco Pass)	32.5'	89.5'	35'	260'	Bridge
3	238+00	County (Gilman Road)	14'	59'	28'	154'	Bridge
	294+00	County (Leavesley Road)	35'	48.5'	28'	156'	Bridge
7A	30+70	County (West Middle Avenue)	19'	No Structure	28'	Triple 12x 9	RCB
	59+30	County (Watsonville Road)	25'	No Structure	28'	Triple 12x 9	RCB
	80+50	Morgan Hill	70'	Triple 8'x12'	70'	12'x12' Cell	RCB
	88+50	Morgan Hill	50'	Double 12'x 9'	50'	8'x 8' Cell	RCB
	96+40	Morgan Hill (West Edmondson)	22'	12'	28'	Triple 10x 9	RCB
7B	102+60	Private			10'	67'	Bridge
	104+40	Private	42'	Elip 84x54	10'	67'	Bridge
	111+10	Private	9'	13'	10'	67'	Bridge
	116+30	Morgan Hill (Cosmo Avenue)	24'	2-54' CMP[1]	28'	Double 10x 8	RCB
	130+20	Morgan Hill (Spring Avenue)	40'	8'	28'	Double 10x 8	RCB
	144+00	Morgan Hill (West Dunne Avenue)	West Side 55.5' East Side 67.5'	8.5'	62'	Double 8x 8 Single 5x 8	RCB
8A	148+50	Morgan Hill (West Fifth Street)	40'	7'	40'	Double 14x 8	RCB
	151+20	Morgan Hill (Monterey Road)	39'	16'	39'	Single 12x 8	RCB
	156+13	Morgan Hill (West Third Street)	West Side 22' East Side 60'	9'	60'	Single 12x 8	RCB
	161+12	Morgan Hill (Del Monte Avenue)	40'	7'	40'	Single 12x 8 Single 2x 8½	RCB RCB
	164+84	Morgan Hill (Warren Avenue)	18'	8'	28'	Single 12x 9	RCB
	173+94	Morgan Hill (North Main Street)	45.7'	9.4'	46'	Single 12x 8	RCB
	196+15	Morgan Hill (Wright and Hale)	9.2' RCB 8.2-30" CMP		110'	Single 12x 8	RCB
9	115+00	County (Leavesley Road)	West Side 121' East Side 130.5'	10'	130.5'	Triple 12x 9 Single 10x 9	RCB
	147+00	City (Murray Avenue)	Old 20.5' New 55'	5'	57'	120'	Bridge
	169+00	Railroad (Monterey Road)		5'	-	112'	Bridge
10	170+00	State (Monterey Road)	71'	No Structure	71'	112'	Bridge
	177+00	City (Church Street)	75'	No Structure	65'	112'	Bridge
	192+00	County (Wren Avenue)	22'	No Structure	28'	94'	Bridge
11A	193+00	County (Farrell Avenue)	20'	16'	28'	102'	Bridge
	220+00	County (Day Road)	21'	No Structure	28'	95'	Bridge
12	206+00	County (Kern Avenue)	20'	No Structure	28'	30'	Bridge
	250+00	County (Morey Avenue)	21'	18" CMP	28'	74'	Bridge
13	233+50	County (Morey Avenue)	20'	48"	28'	56'	Bridge
	245+00	County (Morey Avenue)	20'	7.5'	28'	61'	Bridge

[1] CMP - Corrugated Metal Pipe

3. Installing fish ladders and plunge pools in association with drop structures on main Llagas Creek.

4. Providing landscaping and fencing in visually sensitive areas (Appendix D).

5. Disturbance of archeological site CA-SCl-402 will be avoided. No earth moving activity will be done in the site area.

6. With regard to the Gilman Road bridge, adverse effects on cultural values will be negated, minimized, or mitigated in accordance with the requirements of Section 106 of the National Historic Preservation Act of 1966. If, as expected, the County Transportation Agency pursues its application for funds from the Federal Highway Administration, then those two agencies will carry out the steps necessary for compliance. The SCS and SCVWD will assist by furnishing the information that they have obtained. If, for some reason, the Transportation Agency does not obtain federal funds, the SCS will work with the State Office of Historic Preservation and the Advisory Council on Historic Preservation to assure compliance.

7. The West Edmundson and Farrell Avenue reinforced concrete boxes will be photographed before removal.

8. If evidence of cultural resources is discovered during detailed investigations or construction, SCS will immediately notify the State Historic Preservation Officer and the National Park Service. SCS will follow the requirements of Public Law 93-291 and SCS Procedures for the Protection of Archeological and Historical Properties Encountered in SCS-Assisted Programs (7 CFR 656). SCS and the Sponsors will also permit archeologists who are interested to observe any of the earth-moving activity. Since this is a federally assisted local project, there will be no changes in any federal agency's responsibilities under Executive Order 11593.

9. The City of Gilroy sewage treatment ponds displaced by the project will be replaced.

10. Permanent vehicle barriers will be installed where needed for safety and to prevent damage by trespassing vehicles. They will also discourage dumping of trash.

11. Signs will be erected along the channel and at critical points of entry stating that trespassing, dumping of trash and debris is prohibited and cite local ordinances and penalties controlling such actions.

The following items of work will be included as nonproject features complementary to the mitigation measures. Since these nonproject features are not cost shared under this project, the Gavilan Water Conservation District and the California Department of Fish and Game will enter into a cooperative agreement to carry out the work. This work will make the downstream fisheries mitigation more effective. The cooperative agreement is included in Appendix C even though it is not part of the mitigation plan.

1. Periodic stirring of gravels in creek bottom above Santa Teresa Boulevard to remove silt and improve steelhead spawning areas (Appendix C). Gravel removed in Reach 4 will be moved to the channel immediately below Chesbro Reservoir to improve steelhead spawning areas. The amount and timing of the gravel deposition will be coordinated between the Gavilan Water Conservation District and the California Department of Fish and Game.

2. Removal of downed trees in Llagas Creek which impede steelhead migration.

3. The California Department of Fish and Game will undertake a three-year program of stocking young steelhead in Llagas Creek near the confluence with the Pajaro River.

The following techniques will be used to minimize adverse impacts to the environment and biological resources during construction:

1. Maximum clearing limits needed for construction and maintenance will be established and described in the plans and specifications.

2. After completion of construction, the disturbed areas will be established to permanent vegetation.

3. Diversion ditches will be constructed around spoil piles to prevent erosion and subsequent sedimentation.

4. Where conditions require, temporary debris and sediment basins will be constructed to reduce sediment reaching the streams.

5. Construction in the channel will only be permitted during low flow, or no flow to prevent water quality problems from the generation of sediment.

6. Where low water crossings for construction are installed, they will bypass water through pipes and be designed to minimize disturbance of streambanks and stream bottoms to help reduce erosion and sedimentation.

7. Equipment parking areas, haul roads, and other construction areas will be managed to minimize erosion and sedimentation. Seeding and other erosion control practices will be required during winter.

8. During project installation, state and local health, safety, air pollution, and water pollution regulations will be adhered to.

Operation & Maintenance

The Santa Clara Valley Water District (SCVWD) will be responsible for the maintenance of all project measures. Prior to the start of any construction, an Operation and Maintenance (O&M) Agreement will be entered into by the SCVWD and the SCS (an agreement has already been signed for Lower Llagas). This agreement will cover all features of the project. The O&M agreement will include a reference to the SCS National Operation and Maintenance Manual. O&M plans will be prepared for the various items of work and appended to the agreement.

All completed works of improvement will be inspected annually to determine the maintenance required. Inspections will also be conducted after any unusual event or condition that might adversely affect a structural measure. The inspection group will consist of representatives of the Santa Clara Valley Water District, the Loma Prieta Resource Conservation District, Gavilan Water Conservation District, and the Soil Conservation Service, and may include representatives of other interested agencies.

Structural Measures: An operation and maintenance plan will be prepared for each type of structural measure, and the plan will give specific details as to required maintenance. The following describes the essential elements of the operation and maintenance responsibilities of the Santa Clara Valley Water District.

-- Channels: After installation, the channel is to remain clean of trash and debris; slopes are to be maintained as designed, causes of scour are to be corrected; and scour areas will be repaired. Drop structures are to be cleaned and debris and obstructions to channel flow will be removed.

-- Streambank Protection: Slopes are to be maintained; displaced materials will be replaced to alignment and grade; base materials are not to be exposed and local isolated erosion areas are to be repaired so that they are not damaging to the project.

-- Ground Squirrel Control: Rock riprap will provide shelter for ground squirrels which are a pest in agricultural areas. The squirrel control program will require a more intensive effort.

-- Grade Stabilization Structures: Erosion of the streambed both upstream and downstream of the structure is to be maintained within acceptable limits; backfills are to be near planned elevation and differential settlement will be within acceptable limits. Trash and debris will not be allowed to accumulate. Where applicable, fishways will be kept clear of debris and bedload materials.

-- Earth Levees: Slopes are to be maintained as designed. Only shallow rooted plants are to be allowed. Rodent burrows will be filled.

-- Structural Elements: Maintenance is to be performed to assure that footings and cutoffs are not exposed, hydraulic function is maintained, weep holes are open, and surfaces are aligned and show no stress.

Biological Mitigation Plantings: SCVWD will be responsible for maintenance of the plantings during the life of the project. Damaged plants will be replaced by SCVWD to insure the designed density and vitality of the plantings. All plantings are compatible with designed channel capacity. Use of pesticides in these areas will be restricted since they are generally incompatible with wildlife. However, limited use of pesticides will be allowed to control plant disease, insect infestation or weeds that threaten the mitigation plantings or adjacent croplands.

-- Riparian Woodland: Sponsors will continue to irrigate the plants after the initial two-year establishment period as needed from April through October until the plants are able to survive and grow without irrigation. Weedy plants will be allowed to become established in the riparian woodland once the trees and shrubs can withstand the competition.

-- Scattered Trees and Shrubs: Sponsors will continue to irrigate the plants after the initial two-year establishment period as needed from April through October to insure the survival of the plantings.

-- Shrubs: The direct seeded shrubs will be allowed to grow, reducing soil erosion. The dense cover provided will help control rodent populations, such as ground squirrels, by reducing the amount of clearings, which they require to facilitate predator detection. Sponsors will continue to irrigate the plants once in June, August, and October during the second year.

-- Wetland: Volunteer herbaceous wetland vegetation will be allowed to grow in the channel bottoms. Trees that grow in the channel bottom will be removed and shrubs will be pruned to retain design flow capacity.

Steelhead Spawning Areas: The Gavilan Water Conservation District will stir gravel as a nonproject feature at two locations in Upper Llagas Creek to rehabilitate steelhead spawning areas. The sites identified are 300 feet upstream of Sycamore Avenue and 600 feet downstream of Edmundson Avenue. The timing of the action will be coordinated with the California Department of Fish and Game. Gavilan Water Conservation District will also dump gravel into Llagas Creek below Chesbro to provide steelhead spawning areas. Upper Llagas Creek will be maintained free of obstructions that would inhibit steelhead passage. The California Department of Fish and Game will introduce steelhead into Llagas Creek for three consecutive years to reestablish the fishery.

Landscape Plantings: In areas such as in Morgan Hill where land acquired for channel installation will be minimal, temporary construction easements may be needed for project installation. Maintenance of plants replaced on these temporary easements will be the responsibility of the landowners or landusers through individual agreements. On lands where permanent rights-of-way are acquired, SCVWD will be responsible for maintenance of plantings.

Impacts of Selected Plan

Floodwater & Sediment

Installation of the recommended plan would reduce floodwater and sediment damage to crops, road, ditches, farmland and equipment, farm operations, and residential, industrial, and commercial properties. The project would reduce average annual flood damages from $917,300 to $83,000 with most of the reduction stemming from urban areas.

Agricultural Areas: Project installation would reduce the area flooded from a 10 percent event by 500 acres and the area flooded by a 1 percent event by 1,280 acres (Figure 15). Damage reduction to vegetable crops, hay and pasture, and orchards would result. Other savings would result from a reduction in releveling, land preparation, replanting, use of herbicides, and the replacement of irrigation pipes and sprinklers.

In the protected areas, sediment deposition associated with flood flows would be prevented. Flooding from back waters of the Pajaro River would continue to occur along the lowermost 1.5 miles of Llagas Creek. Average annual agricultural damages would be reduced from $77,000 to $58,500.

Unauthorized recreational use of project rights-of-way could be detrimental to agriculture. Damage will occur to crops and fields whenever hikers, horseback riders and off-road vehicle users ignore regulations and barriers and trespass. Although this occurs to some degree presently, the increased access through maintenance roads will subject farmers to increases in theft, vandalism, noise, dust, and loss of privacy. Right-of-way users may be exposed to pesticides during application to adjacent agricultural crops. This could lead to unsafe conditions for users or a curbing of pesticide application by farmers.

Urban Areas: The project would provide protection from the 1 percent event to approximately 149 residential, 271 commercial, 15 industrial, 2 churches and 4 school buildings, and 115 miscellaneous buildings. Average annual urban damages would be reduced from $840,300 to $24,500.

Savings of $10,800 would be generated from reduced Federal Emergency Management Agency (FEMA) administrative cost resulting from removal of flood hazards on those buildings in the floodplain.

Future benefits of $34,700 will be realized on the increased values of the damageable contents in the residential areas protected by the project.

As a result of the project, 946 acres of urban land within the one percent event floodplain would be protected. Increased elevation of developments and pads for homes, businesses and industries for the areas not yet developed would not be required. These savings are estimated to be $65,200 on 474 acres involving 2,240 structures.

Erosion

Stream erosion in Llagas Creek and its major tributaries is expected to decrease. This is due to flatter streambed slopes, rock lining (riprap) on erodible channel banks, installation of permanent concrete grade stabilization structures and vegetative plantings. Erosion rates may increase on the channel banks of the excavated channels during and following construction due to water flowing over the channel banks from overland flow. Following establishment of the vegetation, total erosion would be less than it was before project installation.

Land Use

Other than the additional 171 acres needed for the project, along with the 88 acres already in public ownership, no major land use changes are anticipated. Of the 171 acres, 80 acres are in agricultural production and the remaining acres are existing channels, urban and miscellaneous.

Growth Inducement

The work necessary to provide protection to the two urban centers will incidently reduce the flood hazard in areas immediately downstream. This will not induce growth beyond the amounts planned. The county and city land use plans define areas to be developed and the rate of growth. Sufficient developable area exists outside of the floodplain to satisfy these plans.

Areas in the floodplain can presently be developed by following the Flood Insurance Administration rules and regulations or by installing measures which reduce the floodplain such as flood control channels. The project will reduce the need for floodproofing measures in protected areas. In other areas such as those draining in Tennant-Corralitos Creeks, East Little Llagas, and Main Llagas Creek above Reach 2, the project will provide no additional flood protection. Within the protected area, certain designated floodways will no longer be in the floodplain and will therefore be open to development.

Following large storms, certain undeveloped areas within the cities of Gilroy and Morgan Hill temporarily pond water because of a lack of adequate drainage outlets. This ponding occurs irregularly, is of no value to wildlife or ground water recharge, and is a constraint to development. The project will provide adequate outlets allowing this land, already committed to urban use, to be developed once storm drains are installed.

Prime Agricultural Land

Project installation would require 65 acres of prime land and 15 acres of agricultural lands of statewide importance to be converted to rights-of-way. Part of this acreage will be used for structural works of improvement and part for riparian habitat reestablishment. About 1,280 acres of prime farm lands will be protected against the one percent event. Of the 1,280 acres, 410 acres are projected to become urbanized by the year 2020 according to the County General Plan. Significant agricultural production will continue to occur on these acres until developed.

Ground Water

Continued removal of sediment and debris in the channel system recharge area will enhance percolation of water into the ground water system. Confining flood waters within the channel will not significantly decrease recharge to the ground water basin. Ground water quality will not be affected by project installation.

Surface Water Quality

The regional water quality control plan identifies various beneficial uses for Llagas Creek (7). The project will not introduce pollutants to the creek, and will not have a long-term adverse impact on these beneficial uses. During construction, water quality in Llagas Creek may be reduced slightly due to increased sedimentation; however, construction will be accomplished during the drier months when run-off is minimal. Immediately following construction, permanent erosion control plantings will be established as a part of riparian habitat reestablishment. Grade control structures installed in the channel will significantly reduce channel scour and erosion and improve downstream water quality. Operation and maintenance will require occasional removal of sediment from channel bottoms.

Biology

Impacts have been separated into three categories and include wildlife, fish, and threatened and endangered species.

Wildlife Habitat: Project installation will remove approximately 19.1 acres of riparian habitat (Appendix C). The greatest loss will occur in Reach 2. Project construction will take place over a period of several years. Some revegetation will take place before all of the removal has occurred. The most valuable riparian habitat will be partially preserved by excavating from only one bank. Mitigation in Reach 2 will include (1) the establishment of 24.5 acres of Type III wetlands (USFWS Circular 39 - Shallow, flooded throughout growing season), (2) planting 8.9 acres of shrubs, (3) planting 5.1 acres of trees/shrubs in clusters due to widening of the channel bottom, and (4) planting 2.5 acres of mixed riparian trees, shrubs, and herbaceous vegetation. Public access to the planted areas may result in damage to the vegetation, particularly during the first ten years of growth.

Fish: Installation of fish ladders, plunge pools, and low flow channels will allow steelhead to continue upstream migration to Chesbro Dam. Nonproject features associated with the mitigation plan such as gravel disturbance, importation of gravel and snag removal will enhance the steelhead spawning habitat.

Threatened and Endangered Species: Project installation will not affect any species listed by the U.S. Fish and Wildlife Service or the California Department of Fish and Game.

Recreation

Project installation will not impact any existing recreational resources. The project will create the potential for parks/trails along the upper portion of Reach 9 (from its upper end to the point where it enters the Resource Conservation Area as defined in the County General Plan), Reaches 10, 11a, 12, and 13 in the Gilroy area; along Reaches 7a, 7b, and 8a in the Morgan Hill area; and along Reaches 5 and 14 in the rural agricultural areas (Figure 16). Park use on Reaches 1, 2, 3, 4, 6a and the lower part of Reach 9 will not be permitted until conditions warrant as discussed in another section of this report (CONSULTATION AND REVIEW WITH APPROPRIATE AGENCIES AND OTHERS, Santa Clara County Park Plan, County Lands). Coordination with Gilroy indicates that the City may develop parks/trails on the project rights-of-way according to the Santa Clara Valley Water District joint use policy. Morgan Hill indicates that they may develop trails on project rights -of-way, following the Santa Clara Valley Water District joint use policy (Appendix E) and acquire additional rights-of-way adjacent to the project.

Cultural

Project installation will destroy the Gilman Road bridge and the West Edmundson and Farrell Avenue reinforced concrete box culverts. No other known archeological or historical sites will be affected.

Visual

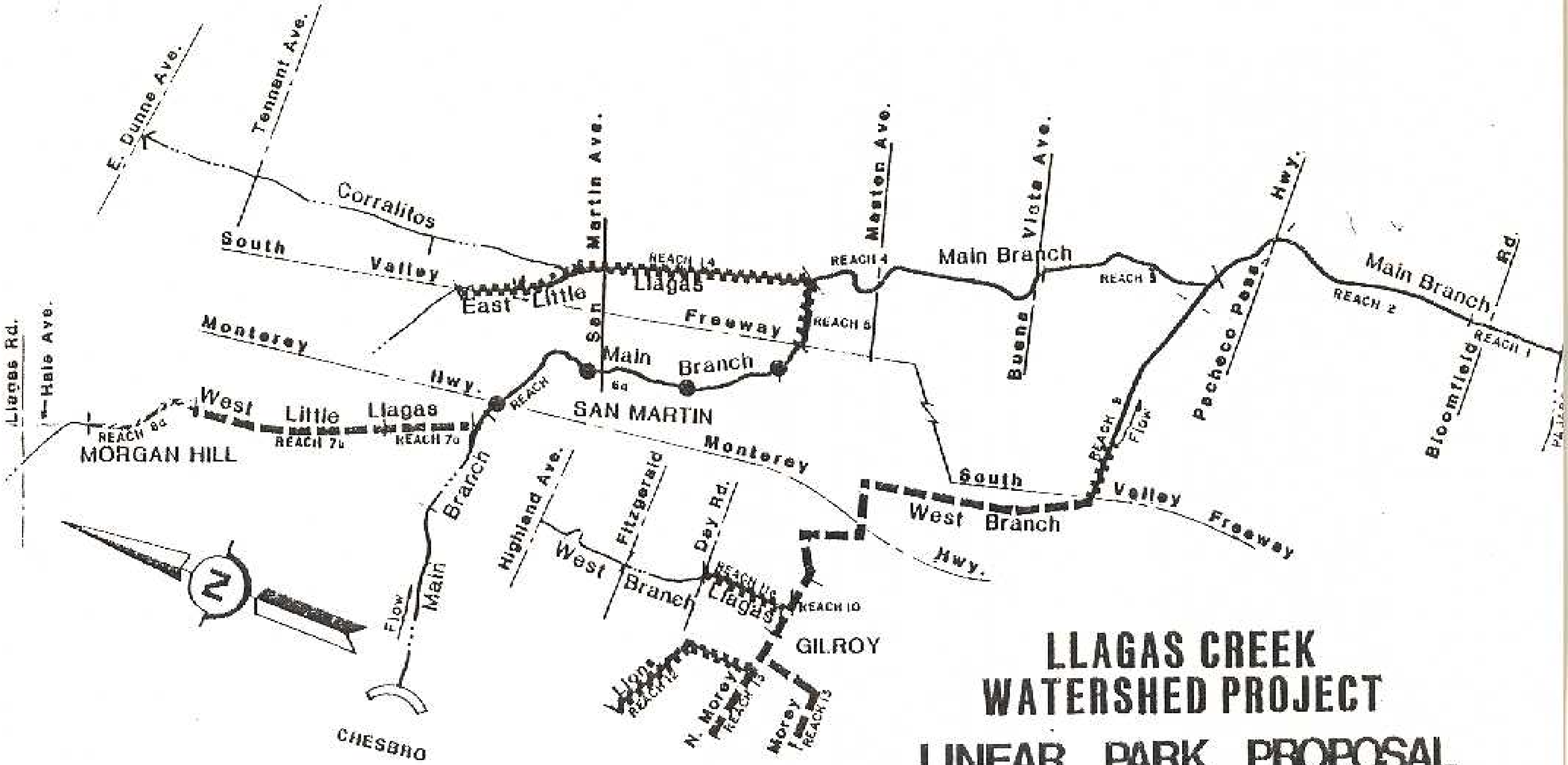
The selected removal of existing mature trees and shrubs along the channels and enlargement of the channel will cause the greatest visual impact. This will cause a loss of aesthetic value and increase channel visibility. The strong geometric form, linear alignment, and contrasting color of the concrete channel in Morgan Hill will visually impact the residential landscape as viewed from adjacent houses, yards, and pedestrian crossings.

Trees not in the path of construction will be saved. Selected groupings of mature trees within the rights-of-way will be retained to help visually soften the linear channel alignment. Trees, shrubs, and vines will be planted along channels to mitigate aesthetic values and provide shade and privacy.

Concrete grade stabilization structure surfaces will be architecturally treated and colored to reduce contrast with the surrounding landscape in areas of high visual impact. The refuse dumped in existing oxbows will be removed. The severe erosion of existing channel side slopes will be stopped.

Induced Downstream Flooding

Installation of the works of improvements will not cause significant increases of water depths in Soap Lake at the 1 percent flood. The lower frequency storms will slightly increase the peak flow into the Pajaro River. Soap Lake, a dry lake bed during the summer growing season, has no crops in production during the flood periods of November through March. The temporary increases in the lake's level will have minimal impact.



LLAGAS CREEK WATERSHED PROJECT

LINEAR PARK PROPOSAL

NOT TO SCALE

FIGURE 16

-·-·-·-·- Coordinate with watershed project (additional right-of-way and cost by others)

∿∿∿∿∿ Possible under joint-use policy as area urbanizes

▬ ▬ ▬ ▬ Presently possible under joint-use policy

—●—●— Additional right-of-way obtained by others before eligible for consideration under the joint-use policy

——— Within Resource Conservation District (joint use for recreation not allowed)

Energy

Energy requirements for both fossil fuels and electricity will be reduced by project installation over the long term. A savings will accrue on agricultural areas as well as urban areas. In agricultural areas, the reduction in remedial operations would reduce energy consumption, reduce the number of pesticide reapplications and reduce repairs to irrigation systems. The dollar savings in energy costs are reflected in the reduced on-farm operation costs. Emergency services associated with flooding in the urban areas would be reduced substantially thus reducing the need for fossil fuels as well as electricity. The dollar savings associated with this was not included in the economic analysis.

Social

Life threatening hazards and emotional stress associated with flooding will be reduced, or eliminated, for about 2,800 people. Reduced disruption of public services (i.e., transportation, utilities, police and fire protection, etc.) will further enhance the quality of life for these individuals.

Ethnic demographics in the flood plain are similar to those of the entire watershed. The benefits of this project will be distributed among all residents within the flood plain, regardless of their minority status.

The project will require that two homes be relocated, causing emotional stress for the eight residents involved. At another home, it will be necessary to move its carport and storage shed. A house being used as a business place will also be affected and have to be relocated.

Significant Unavoidable Environmental Impacts

The following adverse effects are those that cannot be substantially mitigated.

-- Eighty acres of agricultural land required for the project will be taken out of production.

-- The project will remove approximately 19 acres of riparian vegetation ranging from riparian woodland to freshwater marsh with commensurate impacts on wildlife and aesthetic values until the mitigation plantings mature.

-- Enlargement of the channels will result in adverse visual impacts particularly to adjacent residents.

-- Loss of privacy and disturbance to property owners by trespassers are likely to occur as a result of construction of access roads along modified channels.

-- Dust generation, noise, and traffic obstructions will adversely impact nearby residents during construction.

-- Gilman Road Bridge, which is eligible for the National Register of Historic Places, will be demolished.

Short-term vs. Long-term Use of Resources

The proposed project is compatible with the projected future long-term uses of the land, water, and other natural resources. This plan complies with Executive Orders 11988 and 11990, Floodplain Management and Protection of Wetlands, respectively. Surface drainage will be improved in previously inundated areas, thus preventing urban damages and allowing greater agricultural production and urban development. Riparian habitat and visual quality altered over a multi-year period of construction will result in a short-term loss of riparian habitat, but the planting program will ultimately replace and possibly enhance lost habitat and visual quality. A gradual improvement of steelhead migration routes along with stocking of young steelhead should result in a long-term improvement of the steelhead fishery.

Irreversible & Irretrievable Commitment of Resources

Implementation of the project requires a commitment of 273 acres to rights-of-way, 102 acres of which are in public ownership. Of this amount, about 80 acres are currently used for agriculture. An estimated two houses will require relocation.

A bridge of substantial local historical significance will be lost. Two box culverts of lesser local historical interest will also be lost.

Finally, construction, operation, and maintenance of the flood control facilities will require irretrievable commitments of energy, material, and finances.

Consultation & Review with Appropriate Agencies & Others

This section describes only the consultation and review which has occurred since the decision was made in March 1980 to restudy the project.

Restudy

As part of new investigations, a study focusing on the public participation process was completed by RESOLVE, a Center for Environmental Conflict Resolution. Recommendations were made on means to resolve the conflicts, effectively obtain the views of the public, and provide information to those interested. Recommendations were:

1. Provide information on an ongoing basis
2. Actively communicate detailed information at selected times
3. Meet with individual groups
4. Hold public workshops
5. Hold regular informal meetings for the sponsoring agencies

In response to the concerns raised, a restudy of the watershed flood control plan based on these recommendations was started in 1980. As part of this process, many informal meetings were held with project proponents and opponents. These meetings were used to communicate information, coordinate roles, and resolve conflicts. Meetings were held regularly with the Citizens to Preserve Llagas/Chesbro and the Llagas Creek Ad Hoc Committee, from December 1979 through the present, involving 28 meetings to date.

To provide information to the concerned public, data was compiled and mailed to about 580 residences and agencies. As information developed, technical papers on nine issues were written and made available to the public. They were:

1. Future Without Project Land Use Conditions
2. Results of the Economic Analysis of Present Damages
3. Review Summary of Multipurpose Operation of Chesbro Reservoir
4. Future Without Project Runoff Conditions
5. Llagas Creek Watershed Project Alternatives Evaluated During Restudy
6. Use of Herbicide to Control Weeds Along Flood Control Channels in Connection with Llagas Creek Watershed Project
7. Economics of Importing Water to South County Versus Recharging Local Floodwater
8. Llagas Creek Parkchain Issue
9. Flooding Impacts on Soap Lake and Pajaro River Resulting From the Llagas Creek Watershed Project

To obtain public reaction and provide information to floodplain residents, two public workshops were held by the Sponsors and SCS and facilitated by a public participation consulting firm, CKT Associates. The first workshop was an all-day session held on Saturday, May 2, 1981, at the Brownell School in Gilroy. The workshop was attended by 90 people. At the meeting, the planned project described in this report was presented. Specific issues discussed were:

-- Urbanization, land use, level of protection
-- Raising Chesbro Dam
-- Cost
-- Economic justification
-- Effects on riparian vegetation, fish and wildlife
-- Groundwater recharge
-- Flood flows
-- Parks chain
-- Maintenance of channels and use of herbicides

Publicizing of the workshop was as follows:

-- Mailing of brochure on project data to 580 residences and agencies
-- Mailing of flyer announcing workshop to 1,830 people
-- Phone calls to 200 people by CKT Associates
-- Newspaper articles in the Gilroy Dispatch, San Jose Mercury, and Morgan Hill Times

Proceedings of the workshop were recorded and summarized in a report by a consulting firm, Harbinger Communications, and indicated general approval by the majority of the people attending the workshop. The report of the results of the workshops was mailed to 580 people or agencies.

A second workshop was held on Thursday, June 4, 1981, at the South Valley Junior High School, Gilroy. At this meeting, attended by about 50 people, specific design information on the proposed project was presented. Also, questions raised at the May 2, 1981, meeting were discussed.

Specific issues addressed were:

-- Environmental concerns - vegetation and landscaping
-- Operation and maintenance, use of herbicides
-- Morgan Hill design features
-- Park chain
-- Bridge design
-- Remaining areas still subject to flooding

Publicizing of the workshop involved mailing announcements to 580 residences and agencies, calling 240 interested people, and publishing newspaper articles in Gilroy, Morgan Hill, and San Jose. A summary of results and concerns presented at the workshop was prepared by CKT Associates and Harbinger Communications and mailed to 600 people.

A concern remaining after the second workshop, was the flooding still occurring in the areas where structural works had been deleted. Five landowners indicated interest in floodproofing buildings. Subsequent to the workshop, an information packet including an interest response sheet was mailed to 127 residents. Seven individuals indicated interest, while eight were not interested. Ten packets were returned nondeliverable while 102 people did not respond. Of the interested parties, only two would qualify for assistance.

Coordination with Other Plans & Agencies

Morgan Hill Downtown Design Plan: The project requires a concrete channel through downtown Morgan Hill due to the restricted right-of-way. The Morgan Hill Public Works Department and SCS determined that the flood prevention plan and the Downtown Design Plan could be made compatible. To do this, the proposed concrete channel must be covered from Main Street to Dunne Avenue. This cover can then be used for pedestrians and bicycles. The additional cost for covering the channel to support pedestrian traffic would have to be borne by the city of Morgan Hill. An agreement for costs to each party will be developed at the time of design. Similar coordination will be performed with Santa Clara County on the widening of Santa Teresa Expressway from Main Street to Wright Avenue.

Santa Clara County Park Plan: The present County General Plan has designated Llagas Creek as a potential future multipurpose streamside park and trail system from Chesbro Reservoir to the Pajaro River. During planning, contacts were made with various groups interested in this question. Some were interested in implementing the trail in conjunction with the flood control project. They saw the public ownership of rights-of-way as an opportunity to incorporate trails which would otherwise be indefinitely delayed. Others were opposed to the trail system, especially in rural areas where public use would conflict with farming on adjacent properties. Contacts included the staffs of Gilroy and Morgan Hill, Santa Clara County Planning Department, Santa Clara County Parks and Recreation Department, Citizens to Preserve Llagas/Chesbro, San Martin Horsemen's Association and the Llagas Creek Ad Hoc Committee.

Based on the information gathered at these meetings and the alternative selected for flood control, the sponsors believe that using the project as a means of establishing a park chain on all reaches of Llagas Creek is not feasible. However, as explained in the following sections, this plan is compatible with the recreation element of the County General Plan in certain areas where channel rights-of-way are available.

-- Gilroy: A trail/park chain is possible in the urban area. Gilroy is interested in eventual joint use of channels for pedestrian and bicycle use along the West Branch of Llagas Creek from Day Road to Highway 101 including most of Lions Creek and all of Morey Creek. This trail system can be established using the maintenance road available along one side of the project. If and when this development occurs, it would be implemented under the joint use policy of the SCVWD. The cost and responsibilities of the trail system would be borne by the city of Gilroy.

-- Morgan Hill: The City desires to have a future trail system along West Little Llagas Creek from Main Street to the junction with Llagas Creek. Rights-of-way as required by the selected plan may be inadequate to allow trail use along the top of the bank since the maintenance road will be located near the bottom of the channel.

No additional rights-of-way will be purchased for a trail adjacent to the creek bank as part of the watershed project. However, the SCVWD will show on their land rights map an area that may be acquired by Morgan Hill to accomodate an adequate trail. In those areas where the rights-of-way have already been purchased for the project, the SCVWD will make an effort to accommodate joint use of these areas to allow the City to develop a continuous trail. If the City acquires additional land adjacent to the proposed project, the SCVWD would like joint use made of the area to operate maintenance equipment over a portion of it.

On the portion of the project from Dunne Avenue to Main Street, the city of Morgan Hill will have to install a cover over the concrete channel in order to provide part of the trail system.

-- County Lands: This includes the areas east of the South Valley Freeway (101) and the San Martin and main valley areas (Reaches 1, 2, 3, 4, 5, 6a, 9, and 14). The sponsors and County Parks and Recreation Department generally agree that park trails could be installed on project rights-of-way when conditions warranted that use.

Loma Prieta Resource Conservation District and Gavilan Water Conservation District have passed resolutions stating that future park trails should not be installed in an unincorporated area until it urbanizes to the point where both community need and adequate protection of property can be demonstrated. Santa Clara Valley Water District has passed a resolution that would allow park trails in areas other than those designated as Resource Conservation Areas in the County General Plan.

This policy would exclude Reaches 1, 2, 3, 4, and the lower part of Reach 9 from joint use as a park trail until the land use designation changes. Rights-of-way in Reach 4 will be obtained in the form of easements. Even if the land use designation does change, additional land rights would be required before recreational use would be permitted. Reaches 5, upper part of 9, and 14 are eligible for trails when the conditions of the SCVWD joint use policy (Appendix E) are met. The essence of this policy is that others (in this case those responsible for the trail system) must (1) accept liability for the public use, (2) not obstruct flood control function, (3) adequately control and maintain use of facilities and trails, (4) go through an approval process which includes securing the comments and opinions of the adjacent property owners and of the affected community by public hearings; and (5) mitigate adverse impacts. Reach 6a, as Reach 4 will require additional land right acquisition before such use would be permitted.

California Department of Fish and Game and U.S. Fish and Wildlife Service: The sponsors and SCS worked closely with Department biologists during the environmental assessment and the development of the wildlife/fisheries mitigation plan. Both agencies reviewed and concurred with the mitigation plan.

A list of threatened and endangered species was received from the U.S. Fish and Wildlife Service. The California Department of Fish and Game's list of Designated Rare and Endangered Plants (1979) was also reviewed for additional state listed species. Several candidate plant species are known to exist in the county. A biological assessment was conducted to determine if any endangered or threatened species would be impacted. The U.S. Fish and Wildlife Service concurred with the conclusion that the project will not have any impact upon endangered, threatened or candidate species.

Archaeology: Several archeologists were consulted and prepared reports regarding cultural resources in different parts of the watershed (1, 3, 4, 5). Winter (4) and Cartier (5) made recommendations concerning eligibility for the National Register of Historic Places, and their reports were submitted to the State Historic Preservation Officer. The sites investigated by Winter around Chesbro Reservoir will not be affected by the project. Except for the Gilman Road Bridge, the sites described by Cartier will also not be disturbed. The Keeper of the National Register was contacted regarding the bridge, and it was determined eligible. Consultation on ways to negate or mitigate any adverse effect on it is continuing. Copies of Cartier's report are also being furnished to the regional office of the California Archaeological Site Survey, the National Park Service, and the Advisory Council on Historic Preservation.

Corps of Engineers: It is possible that material excavated from the Llagas Creek channels can be used on the Corps of Engineer's project on Uvas Creek. The material will be used for construction of levees.

Distribution List of EIS/EIR

The EIS has been distributed to the following agencies and groups for comment.

Federal

Agricultural Stabilization and Conservation Service
*Advisory Council on Historic Preservation
Bureau of Indian Affairs
Bureau of Land Management
Bureau of Mines
*Bureau of Reclamation
*Coast Guard
*Corps of Engineers
Department of Commerce
Department of Health and Human Services
Department of Housing and Urban Development
Department of the Interior
Economic Development Administration
*Environmental Protection Agency
Farmers Home Administration
Federal Disaster Assistance Administration
Federal Emergency Management Agency
*Federal Energy Regulatory Commission
Federal Highway Administration
*Fish and Wildlife Service
*Forest Service
Geological Survey
National Marine Fisheries Service
National Park Service
National Weather Service

State

Air Resources Board
California Advisory Committee of Western States Water Planning
California Archaeology Site Survey
Central Coast Regional Water Quality Control Board
Department of Boating and Waterways
Department of Conservation
Department of Fish and Game
*Department of Food and Agriculture
Department of Forestry
*Department of Health Services
Department of Housing and Community Development
Department of Parks and Recreation
Department of Transportation
Department of Water Resources
Energy Resources Conservation and Development Commission
Office of Historic Preservation
Office of Planning Research
Reclamation Board
*Resources Agency
Water Resources Control Board
Wildlife Conservation Board

Local Governments

*Association of Bay Area Governments
*Association of Monterey Bay Area Governments
*City of Gilroy
*City of Morgan Hill
Gavilan Water Conservation District
Gilroy Chamber of Commerce
Gilroy Planning Commission
Loma Prieta Resource Conservation District
Morgan Hill Chamber of Commerce
Morgan Hill Planning Commission
Santa Clara County Board of Supervisors
Santa Clara County Fish and Game Commission
Santa Clara County Parks and Recreation Department
Santa Clara County Planning Department
*Santa Clara Valley Water District

Private Groups

*California Cattleman's Association
California Committee of Two Million
California Farm Bureau
*California Fly Fisherman Unlimited
California Forest Protective Association

Private Groups - Continued

California Historical Society
California Native Plant Society
California Natural Areas Coordinating Council
California Natural Resources Federation
California Roadside Council, Inc.
California State Grange
California Tomorrow
California Trout
California Wildlife Federation
*Citizens to Preserve Llagas/Chesbro
Committee for Green Foothills
Friends of the Earth
Humane Society
Izaak Walton League
National Audubon Society
National Wildlife Federation
San Martin Homeowner's Association
San Martin Horseman's Association
Santa Clara County Farm Bureau
Santa Clara Valley Audubon Society
*Sierra Club
The Nature Conservancy
United New Conservationists

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* These agencies and groups contributed comments on the draft EIR/EIS.

Summary of Comments & Responses

The following is a summary of the written comments received on the draft EIS/EIR and the responses prepared. The letters from which the comments were extracted are in Appendix G.

A public hearing was held on February 19, 1982, to solicit oral comments concerning the draft EIS/EIR. No new additional comments were received at this meeting.

FEDERAL AGENCIES

Advisory Council on Historic Preservation

Comment: We have determined that your DES appears adequate concerning our area of interest, and we have no further comments.

Response: Noted.

Bureau of Reclamation

Comments: We have no comments to offer regarding the project.

Response: Noted.

Department of the Army, COE

Comment: The proposed construction project will require Department of the Army Authorization under Section 404 of the Clean Water Act.

Response: The necessary 404 permit will be requested prior to initiation of construction.

Environmental Protection Agency

Comment: The second paragraph on page 61 of the revised DEIS/EIR should clarify the issue of ponding in certain undeveloped areas within the scope of the proposed project. The Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) should state whether the areas of concern are wetlands and whether the ponding of stormwater is significant in terms of flood control, groundwater recharge, or wildlife use. The FEIS/EIR should also indicate if these areas are subject to public review and permitting based on the regulatory program of the Corps of Engineers or other federal or state agencies.

Response: The ponding referred to happens on an irregular basis and is not an annual event. This trapment of local runoff follows large storms and usually disappears within a few days. The areas are not considered wetlands, by definition of the USFWS Circular 39.

This ponding occurs in urban areas and is considered a constraint to further development. There are no wildlife or groundwater recharge values associated with these ponding areas. The floodwater detention capacity is small and does not have a significant impact on reducing flooding. An additional sentence was added to the FEIS/EIR, under the Growth Inducement section, to help clarify the nature of this ponding. Since these areas are not considered to be wetlands, their modification does not require a Section 404 Permit. However, a Section 404 Permit will be obtained by the sponsors because of other project modifications to Llagas Creek.

Comment: The selected alternative appears to satisfy the requirements of federal guidelines developed pursuant to Section 404 of the Clean Water Act (40 CFR 230). However, a definitive evaluation cannot be made until dredge spoil disposal sites are specified in an application for federal authorization under Section 404. EPA will provide its recommendation to the Corps of Engineers after the Corps has received a Section 404 permit application.

Response: Noted.

National Marine Fisheries Service

Comment: The National Marine Fisheries Service has reviewed the draft EIS/EIR for the Llagas Creek Watershed Project and supports the selected plan (Alternative F), with the proposed mitigation plan.

Response: Noted.

U.S. Coast Guard

Comment: Pages 25 and 66: The Gilman Road Bridge (No. 37C-537), which will be replaced by the proposed project (Alternative F), has recently been determined eligible for the National Register of Historic Places.

Response: Noted. We have received the eligibility determination from the Keeper of the National Register. The SCS will assist the responsible agencies in meeting the requirements of Section 106 of the National Historic Preservation Act. Pages 26, 27, and 53 have been revised to reflect this.

Comment: The Gilman Road Bridge is alos eligible for Highway Bridge Replacement and Rehabilitation funding. If the bridge will be replaced under this program, project clearance under Section 4(f) will need to be obtained from the Federal Highway Administration.

Response: Section 4(f) of the Department of Transportation Act concerns work done under programs of the Federal Highway Administration.

If the bridge is replaced under this program, the County Transportation Agency will be responsible for obtaining the clearance. SCS and the SCVWD will assist the Transportation Agency by furnishing available information. Page 53 has been revised to reflect this.

Comment: We have reviewed the list of bridge/culvert replacements (Table 11, page 52) for funding eligibility under the HBRR program and find that no other bridges can be expected to qualify in the near future.

Response: Noted.

Comment: In addition, we oppose a reduction in roadway width at bridge approaches, as is proposed for Bloomfield Avenue (Reach 1, Station 50+40), for reasons of traffic safety. See Table 11, page 52. The environmental statement needs to indicate whether or not the proposed roadway width at each bridge/culvert approach meets AASHTO Standards. These standards are based on the projected average daily traffic for a minimum 20-year design life. Substandard roadway approach and bridge widths are not acceptable to FHWA.

Response: Bloomfield Road is presently 30-feet wide. The 60-foot width shown on Table 11, page 52, is right-of-way. The replacement of the 30-feet width is altributable to flood prevention. If local agencies determine that additional width is required, they will construct it. Final roadway widths will be determined at time of final design, but will not be less than the existing road widths. The roadway widths at each bridge/culvert approach will be designed to Santa Clara County Transportation Agency Standards.

Comment: The EIS should state that the bridge/culvert design will be based upon detailed engineering and environmental studies and will comply with Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands.

Response: A statement has been added to the EIS (under Short-Term Versus Long-Term Use of Resources) stating that the plan complies with Executive Orders 11988 and 11990. The replacement of the bridges is a local responsibility and the sponsors will conduct a detailed environmental analysis during bridge design. This analysis will satisfy the California Environmental Quality Act.

U.S. Fish Wildlife Service

Comment: The continuous coordination between your staff and the Sacramento Office of Ecological Service has resolved all issues of concern to the Fish and Wildlife Service. I believe the selected alternative provides an excellent opportunity to improve conditions for fish and wildlife resources in the project area.

Response: Noted.

Comment: As time and funds permit, the Service would be interested in cooperating with the Gavilan Water Conservation District and the California Department of Fish and Game in monitoring the effects of the project on fish and wildlife resources.

Response: Noted. An invitation will be extended to the Fish and Wildlife Service to participate in the monitoring efforts.

U.S. Forest Service (Land Management Planning)

Comment: National Forest System lands and resources are not involved, and we therefore have no comment.

Response: Noted.

U.S. Forest Service (FAC Member)

Comment: The discussion of the effects of flooding on page 11 under Discussion of Agricultural Damage could be clarified by providing a little additional information. For example: Listing some of the weed species, and explaining the relationship of the water borne spores of the root rot *Phytophthora* that attacks truck crops.

Response: The discussion concerning agricultural damages has been broadened to include the enhancement of root rot by flooding. The species of weeds were not enumerated because practically all species are considered weedy pests in cropland.

Comment: On pages 56 and 57, the relationship between the rodent population and type of cover must be understood by the reader before the statements are clear. Some additional explanation about plant cover and rodent predators would be helpful.

Response: The statement has been clarified to point out that ground squirrels prefer open vegetation over dense shrubs in order to more easily detect predators.

Comment: Suggest commenting on the relationship of water quality and project design relative to the existing sewage pond shown in Reach 2 and Figure C-1.

Response: The sewage ponds along Reach 2 are presently in use. The water quality in Llagas Creek was recently impacted when the levee broke during the January 1982 storm and sewage pond water entered the creek. The incident of this occuring will be reduced once the channel is enlarged and the levees improved.

STATE AGENCIES

California Department of Food and Agriculture (DFA)

Comment: In general, DFA supports the Llagas Creek Watershed and, in particular, Alternative F. The proposed project is consistent with future long-term uses of land, water, and other natural resources of the area.

Response: Noted.

Comment: One-hundred sixty-six miles of channels will be modified for increased capacity....

Response: Only 16.6 miles of channel will be excavated or modified by the proposed project.

California Department of Health Services

Comment: Proposed mitigation in Reach 2 calls for the creation of 24.5 acres of Type III wetlands. This type of wetland will almost certainly become a substantial mosquito source if the characteristic shallow water and dense vegetation are maintained. The project plan has neither provision for water management nor a description of structural features to manage the water depth behind the grade stabilization structures and fish ladders.

Response: The wetland vegetation described in Reach 2 will be maintained by ground water. It is not predicted that free standing water will be a problem in this area. The grade stabilization structures are not designed to create shallow ponded areas. The low flow channel will minimize ponding in Reach 2 and should reduce mosquitoes by providing habitat for mosquito predators.

California Regional Water Quality Control Board

Comment: It is assumed infiltration ponds mentioned on page 53 are the City of Gilroy's industrial wastewater disposal ponds. If that is the case, the report should mention the area of ponds which will be displaced by the project and location(s) where replacement ponds will be located. The City will need to contact this agency at least four months prior to relocating the ponds.

Response: The infiltration ponds are primarily for industrial wastewater disposal with some capacity for municipal use as well. The percolation capability lost will be mitigated. The area required will depend on the characteristics of the selected site. Presently, two sites are under investigation to establish additional ponds. The necessary permits will be requested from the Water Quality Control Board once the final design is completed.

Comment: As additional mitigation measures, we recommend construction occur in the dry season under low flow, or no flow conditions. Equipment and fill soils should be excluded from all flowing water.

Response: An additional statement has been added to the mitigation section of the report which restricts channel construction to periods of low flow, or no flow. This practice is consistent with SCS standards and specifications for construction activities.

Resources Agency of California

Comment: Under an agreement with the Santa Clara Valley Water District, CALTRANS has excavated the Llagas Creek Channels. Despite statements in the draft EIS, CALTRANS does not acknowledge responsibility for any damages caused by induced flooding or otherwise resulting from such work.

Response: CALTRANS was not responsible for any induced flooding damages caused by their excavations. A May 27, 1969 agreement between Santa Clara County Flood Control and Water District and the California State Transportation Agency exempted the State from any damage or liability occurring from the mutually advantageous project. The construction work done in 1971 is referred to as CALTRANS's work because it is locally referred to as such.

Comment: The draft EIS is adequate for CALTRANS's use in its responsible agency role in replacing the bridge over Llagas Creek on State Route 152.

Response: Noted.

LOCAL GOVERNMENT

Association of Bay Area Governments

Comment: Association of Bay Area Governments Executive Board has not taken a position on this document or on the proposed project. The staff is in favor of the preferred alternative as providing the best flood protection for the money spent.

Response: Noted.

Association of Monterey Bay Area Governments

Comment: The EIS/EIR basically describes the impacts of the proposed project, but there is also a need to identify all the effects of that part of the project which have already been completed. The excavation by CALTRANS in 1972 to widen the channel may have impacts on migration of fish in Llagas Creek, and along with the two drought years, should be considered a factor in the temporary loss of fish. Also, it should be noted that even with installation of low-flow channels and fishways as mitigating measures, loss of fish may still occur from poaching at fishways. To help mitigate this impact, Dr. Jerry Smith suggests that spawning conditions be improved, for those fish that do make it through the channel by stirring gravels or gravel placement, and that this be included as a project cost. Also with respect to project costs, replanting riparian vegetation on cut slopes is desirable, but restoration of the steelhead population should be considered a project cost-share expense as well. Stocking the creek with appropriate fish to restore the steelhead run should be paid for as part of the project rather than as now planned by DFG and the Gavilan Water District.

Response: The Sponsors, California Department of Fish and Game (CDF&G), and Dr. Jerry Smith of San Jose State University met early in the restudy, and (1) identified impacts upon fish and wildlife from previous CALTRANS excavations, and (2) projected impacts upon fish and wildlife from proposed work. We feel that past project impacts to the fisheries will be adequately mitigated by the installation of low flow channels, fish ladders, and riparian vegetation; cleared by the FNSI (Appendix A). The drastic reduction of the steelhead run in Llagas Creek is primarily the result of the drought coupled with the degradation of spawning habitat, caused by the construction of Chesbro Dam.

Future project impacts on the fisheries will be mitigated with additional fish ladders at erosion control structures, low flow channels, and riparian vegetation included in this EIS/EIR. The planned enhancement to spawning habitat such as gravel stirring, log removal, clearing of gravel beds, and stocking of steelhead is not mitigation for the impacts of this project. The need for this work was recognized by the sponsors and therefore a Cooperative Agreement between Gavilan Water Conservation District and the CDF&G was reached (Appendix C). Since this work is not mitigation for the effects of PL-566 work, the cost must be handled by monies outside of project funds.

Comment: The mitigating measures outlined in the draft statement regarding the steelhead and its habitat are good and should be a high priority. Installation of the low-flow channels and fishways is important but these must be maintained; failure of any of the fishways could result in the elimination of an entire year class, and thus jeopardize the run. The Cooperative Agreement between the Gavilan Water Conservation District and the Department of Fish and Game should include specific provisions for the fishways and channels to be checked each fall and after or during storms which have the potential to result in clogged or damaged fishways or the low-flow channels (and indicate responsibility). This is very critical in determining the effectiveness of the mitgating measures (fishway and low-flow channel installations).

Stocking Llagas Creek to re-establish the steelhead trout run should be done with a southern strain (such as from Carmel River or Uvas Creek). Using southern strains that are adapted to early downstream migration will help to ensure the success of restocking efforts.

In conclusion, the project and proposed mitigating measures will help to improve the steelhead fishery resource but it is critical that the low-flow channel and fishways be regularly checked and maintained to continue providing optimal habitat for the steelhead in the future.

Response: The local sponsors will maintain all installed project features. Their normal maintenance program includes periodic inspection of the channels. SCS makes an annual inspection during the first couple of years to insure that the operation and maintenance of the project features meet SCS specifications. The inspection team will include an SCS biologist and a representative from CDF&G. A representative from the Association of Monterey Bay Area Governments would be welcome to accompany the inspection team. During this inspection, recommendations will be developed to insure that the low-flow channels, fish ladders, and vegetative plantings are effective and properly maintained.

City of Gilroy

Comment: The west branch of Llagas, running through the community of Gilroy, has been identified in our general plan as open space and as a possible part of the future hiking and bicycle trail system. This in no way represents a commitment on the City's part to develop or maintain such recreational use. This represents only a concern, at this time, that the project not progress in such a way that it would eliminate this possible future use.

Response: Recreational use of the west branch of Llagas Creek is compatible with the biological mitigation plantings. The plantings will be restricted to one side of the channel. The opposite side can be developed as a park-trail. The plantings will screen out the South Valley Freeway and thus enhance recreational opportunities.

Comment: Future recreation use of trails along the west branch will probably be the single most important reason for continued care and maintenance of plantings. Public demand will probably be necessary to justify necessary maintenance cost when vegetation is vandalized, fire damaged or dies. If not maintained, we fear mature vegetation will be viewed as a hazard and security problem, when adjacent to housing and other urban development. This would result in its removal.

Solid vegetated planting in the Biological Mitigation Plan without easy vehicle maintenance access will preclude its future recreation use. This could ultimately lead to the abandonment and distruction of such planting efforts. Urban conflicts should be viewed as a serious future threat to such mitigation planting and should be planned for. A solid vegetative planting area fronting urban development without maintenance access will lack recreation use value to the community. It is this type of situation, we believe, which would lead to the future loss of the planned biological mitigation efforts.

Response: The local sponsors will be responsible for the maintenance of the plantings to insure their survival. The plantings in Gilroy will be placed between the South Valley Freeway and the channel. They will be on the opposite side from the present urban area and therefore not present a hazard or security problem. From where the channel turns west from the Freeway and then intersects Monterey Road is presently not developed. Should this area be developed in the future, a road could be planned between the vegetative plantings and the development. This road could act as a fire break, provide maintenance access to the channel, and serve the needs of the local development.

Comment: The fact that we suffered substantially more than any other area in the project should support the high cost benefit ratio granted Gilroy for the project, and our request that work in Reaches 10, 11a, 12, and 13 be given a high priority for the first years of construction.

Response: Construction will begin downstream and proceed upstream in order to handle increased flows generated by flood control work. Initial work will include Reaches 2 and 3. Federal funding will be a major factor in how fast the planned work can be completed. The acquisition of landrights and the construction of road crossings is another important factor. Priorities could change should landrights not have been acquired or road crossings not modified prior or commensurate with the channel installation schedule.

Comment: In Table 11, the ownership on Reach 9 at Station 147+00 should be changed from County to City.

Response: The change has been incorporated into Table 11. Because of this change, and the work in process to widen the road, a bridge 57 feet wide will be included.

Comment: The inclusion of bridges at Station 177+00 (Church Street) and Station 178+00 (Carlyle Avenue) along Reach 10 were overlooked in the preparation of your report. With the construction of an adequate bridge for Church Street (53 feet wide between curbs), the Carlyle Bridge will be unnecessary.

Response: A 65-foot wide bridge at Church Street has been included in the EIS/EIR. The Carlyle Bridge is not needed.

City of Morgan Hill

Comment: The Riparian Habitats located along the West Little Llagas Creek in Downtown Morgan Hill is an integral part of the City's specific design plan for the area. As proper mitigation, the plan should, where possible, preserve significant vegetation along the creek alignment with particular empahsis given toward the preservation of large specimen trees.

Response: Trees along West Little Llagas will be preserved whereever possible. Any impacts to the vegetation or visual attributes of the channel will be mitigated by planting native trees, shrubs and vines.

Comment: Vegetation which must be removed due to channel work should be replaced with native riparian plant species.

Response: The riparian mitigation plantings planned for the project are composed of native trees and shrubs. Erosion control plantings will include both native and non-native species of annuals. The use of non-natives is necessary because of the lack of availability of adequate natives for use in erosion control.

PRIVATE GROUPS

California Cattlemen's Association

Comment: They (Santa Clara County Cattlemen's Association) felt the proposed project would not have any affect upon the livestock industry, but that it could have prevented some flood damage to urban areas had the project been completed prior to the early January storms.

Response: Noted.

Citizens to Preserve Llagas/Chesbro

Comment: On page 11 under Urban Damage, the phrase "especially those with slab-floor construction" seems to be out of place. Certainly the type of floor does not affect flooding.

Response: Homes with slab-floor construction are more succeptible to flooding because they do not have the advantage of an additional foot or two of elevation off the ground.

Comment: On page 12 in the paragraph beginning "In commercial areas" the word "would" should be inserted directly following 278.

Response: Noted and corrected.

Comment: On page 47 under Reach 2, replace (word) "excavationed."

Response: Noted and corrected.

Comment: On page 47 under Reach 4, have we saved the eucalyptus?

Response: One-sided construction will be used in Reach 4. This will allow many of the existing trees to be preserved. Any vegetation growing in the channel bottom will be removed.

Comment: On page 53, debris is misspelled.

Response: Noted and corrected.

Comment: CPL/C sincerely hopes that the Santa Clara Valley Water District will pass the more restrictive, proposed policy regarding Joint Use of the Llagas Creek land areas.

Response: The Joint Use Policy Resolution has been passed by the Santa Clara Valley Water District.

Federation of Fly Fishermen

Comment: The purpose of this project is to reduce flood damages to agricultural and urban areas caused by the approximately 10.9 miles of channel excavated by CALTRANS in 1971/72 to provide fill for the South Valley Freeway.

Response: A portion of the project was formulated to mitigate damages from previous excavations. The majority of the proposed channel modifications will reduce flood damages that are independent of the CALTRANS excavations.

Comment: I am greatly pleased to read of provisions for a low channel for steelhead migration to thus rehabilitate this important local anadromous fishery. Also equally pleased, both as to aesthetic considerations as well as preservation of wildlife habitat, by the plans for restoration of the riparian resources with vegetative plantings.

Response: Noted.

Sierra Club

Comment: Though the EIR does address the various environmental impact of this project, it does not address the cumulative impacts. Each project evaluated independently often appears to have minimal impact, but all development projects taken in total have a generally more severe impact on the environment. The EIR, for example, implies that the loss of wildlife habitat (and therefore wildlife) can be minimized by careful planning. It does not, however, reference the total acreage loss of wildlife habitat in the County as a result of urban development.

Response: The EIS indicates that the project will not induce growth beyond the amounts already planned for in the city and county general plans. Since these agricultural lands with their associated wildlife values are already scheduled for development, the loss of habitat is not an impact resulting from this project. The total acreage of wildlife habitat lost to urban development within the County is not an issue related to this project. This EIS reflects mitigation needs resulting from the construction of this project.

Society for California Archaeology

Comment: Under item number 6, the mention of "a plan for avoiding or mitigating adverse effects on cultural values resulting from the removal of the Gilman Road Bridge is being developed by SCA and SCVWD in consultation with the State Historic Preservation Officer" is made. No alternatives to removal of the bridge were given, such as constructing a second bridge adjacent to the 1911 structure to handle the additional traffic, or realignment of the road to a new bridge, leaving the old bridge intact. Were any other plans considered in regards to simply removing the bridge?

Response: The project envisions removal of the bridge because there is not adequate water-carrying capacity under it, not because of its traffic-carrying limitations. The only alternative would be to add a second bridge or several box culverts at the west end of the existing bridge, to carry the excess flow. However, the bridge is also slated for eventual removal because of its structural and geometric inadequacies. For this reason, the sponsors are attempting to coordinate their plans with the County Transportation Agency so that all the work at the site can be done at one time. Realigning the road to a new bridge would require additional land, and would still require additional flow-carrying capacity to be provided at the existing bridge.

Note that pages 26, 27, and 53 have been revised to reflect recent developments.

Comment: Item 8 acknowledges that cultural resources may be "discovered during detailed investigations or construction" and that the sponsors "will also permit archaeologists who are interested to observe any of the earth-moving activity." If there is a potential for the disturbance of cultural resources, a detailed plan should be made to be sure a monitor is at the sensitive areas during earth-moving activities. "Permitting interested archaeologists to observe" implies on a volunteer basis. This kind of work requires vigilance by qualified observers who can recognize the traces of past cultures. It is also tedious work that is not appropriate to reliance on volunteers. Thus monitoring services by a full-time qualified archaeologist should be provided.

Response: The proposed construction areas have been examined by a qualified archeologist and excavation at known significant sites will be avoided. The SCS recognizes that other sites may exist even though there is no surface evidence of their locations. The SCS will provide special training to its construction inspectors to better enable them to identify signs of possible sites. If such signs are discovered, the area will be avoided and the National Park Service will be asked to provide on-site consultation. This is in accordance with the SCS procedures for protecting cultural resources. These procedures are set forth in more detail in Title 7, Part 656 of the Code of Federal Regulations.

INDIVIDUALS

Miss Teresa Felice

Comment: I own the corner land that borders the Llagas Creek and Highway 152 beyond the garlic plant. Can you explain to me why you need eight acres of land of good or choice prime land?

Response: The new channel, which will require some of your land, was planned because the sharp bend in existing channel north of Highway 152 would have been eroded rapidly with the increased flood flows to be routed through the channel. If the old channel was enlarged, five homes would have to be removed. By locating a new channel south of Highway 152 and east of the existing channel, we were able to avoid these relocations. Cleaning out or deepening the existing channel would still not carry the increased flows. The new channel would involve your property. Any lands used for construction in your area are an unavoidable loss of prime farm lands.

Mrs. J.E. Gieselman

Comment: Our home is located off Columbet Avenue just down from Maple Avenue. I was unable to attend the past two meetings, but am of the impression that this area has been tabled for the present. This is of great concern as we had such severe flooding all around our home on January 4, 1982. Please give reconsideration to this area as it reflects urgency in flood protection.

Response: We have already reconsidered the area because of concerns expressed by other homeowners in this area at the May 2, 1981 public workshop. However, because of federal criteria of the Water Resource Council that requires economic justification, we are unable to keep it in this project. The Santa Clara Valley Water District is presently reviewing this situation and will undertake a planning study next fiscal year to see what alternatives are available to solve your flooding problem.

Mr. and Mrs. John Perry

Comment: Only a few people (at the public hearing on February 10, 1982) raised their hands to show approval. Even though no one raised their hands in disapproval, this was not the enthusiastic approval as reported by Mr. Glines.

Response: The purpose of the public hearing was to solicit comments on the adequacy of the draft Environmental Impact Statement/Report (EIS/EIR) and not conduct a poll concerning the approval of the project. A member of the audience suggested that a vote be taken "for" or "against" the project. The audience was asked if they approved of this and since their was little approval, no vote was held.

Mr. Glines newspaper article probably referred to the strong support for the project exhibited by both landowners and local agencies in the comments made at the public hearing. Additional support for the selected plan was indicated by the letters commenting on the draft EIS/EIR.

Comment: The meeting lacked the spontaneity that occurred at the January 26, 1982 Loma Prieta Resource Conservation District meeting following the recent flooding. At that meeting, there was an attitude of trust in that the individuals in charge would listen and attempt to find a solution to prevent flooding.

Response: The February 10, 1982 public hearing was not conducive to "spontaneity" because it occurred at the end of the planning process. By this time, issues have been surfaced and addressed. The proposed project presented at this hearing was the culmination of over 2½ years of intensive meetings between our agency, the local sponsors, project opponents and other proponents and included two well-attended Public Workshops in the South County to help formulate the proposed project. No new information or issues were raised at the public hearing. The same concerns over flooding that you refer to (January 26, 1982) were the basis for this project's initial development in the late 1950s. Through the environmental and public review process, the original project has been reduced in scope and cost considerably. We believe this does reflect trust and an attitude of cooperation on the part of the local sponsors (Loma Prieta Resource Conservation District, Gavilan Water Conservation District, and the Santa Clara Valley Water District).

Comment: We would like to know the ratio of the cost of management to the actual work done. Could the Loma Prieta District do it better since it is in this area and understands the problems locally?

Response: Maintenance costs of the project have been estimated to be approximately $49,000 annually in terms of 1981 dollars. Obviously, such costs if only escalated for inflationary purposes to the year of anticipated project completion (1989) would be significantly higher. Such costs would represent about 0.3 percent per year of current anticipated project construction costs.

The Loma Prieta Resource Conservation District participated in a very large way, both through its staff and Board of Directors as members of an Ad Hoc Project Committee made up of project sponsors. This committee acts as an advisory review committee on the project. Loma Prieta does not have an interdisciplinary team to develop and manage such a project. To acquire the necessary level of expertise would be costly. They have and will continue to contribute to the maximum extent possible. The sources of funding available to and the level of expertise demonstrated by the SCVWD in the management of flood control projects indicate that SCVWD is capable of operating and maintaining the project at the needed level.

Comment: Are other areas outside this District being neglected? An example is the Uvas Creek at the bridge on Highway 152 which has been eroding the banks for several years and now is threatening Burchell Road and the bridge itself when the removal of a gravel bar could have been an ounce of prevention.

Response: The Uvas Creek Watershed and its associated flooding problems is presently outside of the Soil Conservation Service's area of authority. The Llagas Creek project was authorized by Congress in 1969 and did not include Uvas Creek. The U.S. Army Corps of Engineers has completed a plan for flood control work on Uvas Creek and is awaiting funding to implement the project.

The Santa Clara Valley Water District does not presently have adequate maintenance easements on Uvas Creek. After the January 1982 flood, they obtained emergency easements to enter private property along Uvas Creek and clear debris and other obstructions to flow.

Comment: Are the people justified in their feeling of mistrust toward the Santa Clara Valley Water District (e.g. formation of Citizens to Preserve the Llagas Watershed)?

Response: The Santa Clara Valley Water District operated appropriately under the law. The Citizen's Committee was organized to resolve conflicts that surfaced during the review of the 1979 draft EIS. The Citizens to Preserve Llagas/Chesbro now fully support the 1982 EIS.

Ward B. Saunders, Jr.

Comment: How (was) the Average Annual Installation cost of $713,000 computed?

Response: Federal policy states that benefits and costs will be evaluated at the interest rate which prevailed at the time Congress approved the project. The Llagas Creek project was authorized in 1969. The interest rate used at that time for evaluating water resource projects was 3¼ percent. Therefore, using a

3¼ percent interest rate and amortizing the cost of the project over the life of the project (100 years) we have:

> $21,044,500 (installation cost) x .03388 (amortization factor, 3¼ percent, 100 years) = $712,987.66 or $713,000 (average annual installation cost).
>
> (Note: Refinement of cost has changed installation cost to $21,967,000, so average annual installation cost is now $744,200.)

Comment: The report indicates that for an expenditure of $22,184,900, the Selected Plan would result in a saving of $941,000 (page 45) or $834,300 ($917,300 less $83,000 plus O&M of $49,400 (page 2). How can the annual savings for Plan F on page 2 and page 45 be reconciled?

Response: This comment deals with project benefits (savings). There are four types of benefits in the Llagas project. They are: (1) reduced urban and agricultural flood damages ($815,800 and $18,500 respectively) which total $834,300, (2) savings in reduced Federal Emergency Management Agency (FEMA) administrative costs ($10,700 - see page 60), (3) future benefits which will be realized on the increased values of damageable contents in the areas which will be protected by the project ($34,700), and (4) savings in future development costs likely to be spent complying with the requirements of the FEMA ($65,200). The total of these four benefit categories is $944,900. However, $3,800 of benefits in Item 1 had to be subtracted from the total because of anticipated land use changes. Therefore, the monetary benefits that are anticipated to accrue from the installation of the remaining work are $941,100. This is the figure that appears in Table 8. The $834,300 represents only the urban and agricultural flood damage reduction category of benefits and are expressed in average annual terms.

Comment: At page 41, the statement is made that "the no-project alternative allows significant flood problems to remain unsolved. For this reason it was generally unacceptable." If the cost of solving the flood problem exceeds the benefit, why should the expenditure be made?

While as indicated above, it would appear to me that the Alternate F, as well as the other alternates, the cost substantially exceeds the benefits, and not one of the alternates should proceed.

Response: The benefits of this proposed project do exceed the costs as expressed by the benefit/cost ratio shown in Table 8, page 45. The benefit/cost ratio is calculated by dividing total average annual benefits by total average annual costs. In the Llagas project we have:

Total Average Annual Benefits = $941,100

Total Average Annual Costs = $756,400
($713,000 Average Annual Installation Costs and $43,400 Average Annual O&M.)

Therefore, B/C Ratio = 941,000/756,400 = 1.24 or 1.2:1.0.

(Note: Refinement of cost has changed total Average Annual Installation Costs to $744,200.)

Ben Simms

Comments: I believe that a realignment of San Martin Creek at its confluence with East Little Llagas Creek as per map attached would help soil conservation and reduce soil erosion, would improve drainage, and would be a great improvement to everyone in the area. At various times, I was told that such realignment is part of any work to be done in the area, yet I do not see on Reach 14, Map of the Report such Realignment. Is this to be a separate job? I hope you will include this Realignment in final Work Report.

Response: The Llagas Creek Watershed Project has changed from the original work plan and no longer includes any additional flood control work along Reach 14. Only the work that generates benefits in excess of cost was included in the selected alternative. The cost of flood control work in Reach 14 would exceed economic benefits.

The only work proposed for Reach 14 are erosion control structures and vegetative plantings to mitigate environmental losses resulting from past project construction.

The Santa Clara Valley Water District might be able to provide more information on the possibility of solving this problem separate of the present project. They can furnish information on permits, should the realignment of San Martin Creek be undertaken. The local Soil Conservation Service Office, working in cooperation with the Loma Prieta Resource Conservation District, should be able to provide technical assistance on designing a realigned ditch.

LIST OF PREPARERS

NAME	PRESENT TITLE - YEARS	EDUCATION (Degree(s) Continuing Education Subjects)	EXPERIENCE (Titles and Years)	OTHER
SCS Watershed Planning Staff				
Bullard, Gary L.	Environmental Specialist - 4½	BS - Wildlife Mangement 35 semester hours post graduate 13 semester hours graduate study	Resource Planner - 2 Soil Conservationist - 1 RC&D Biologist - 1 Area Biologist - 3 Watershed & RB Biologist - 3	
Crow, Steven R.	Soil Conservationist - 1	BS - Wildlife Conservation	Watershed Planning Staff - 1	
Defillo, David	Agricultural Economist - 1½	BA - Economics MS - Agricultural Economics	District Program Coordinator - 2 Watershed Ag. Economist - 5½	
Fontenot, Wildon	Planning Staff Leader - 2	BS - General Agriculture MS - Agricultural Economics Candidate for PH.D in Natural Resource Administration	Watershed Agricultural Economist - 5 Riverbasin Agricultural Economist - 1 Watershed Planning Staff Leader 6	
Gray, Randall L.	Watershed Biologist - 1½	BA - Animal Biology MA - Biology	State Fish and Game - 1 Soil Conservationist - 1 Field Biologist (Wetlands) - 3 Wildlife Management/Ecology Instructor - 3 Watershed Planning Biologist - 1½	Member - Wildlife Society Member - Ecological Society of America
Hansen, Lester E.	Planning Engineer - 3	BS - Agricultural Engineering	Agricultural Field Eng. - 19	Professional Engineer - CA
Schulz, Edward J.	Hydraulic Engineer - 8	BS, MS - Agricultural Engineering	Agricultural Field Eng. - 5	Professional Engineer - CA
Snieckus, Bob	Landscape Architect - 3	BS - Landscape Architecture	Landscape Architecture - 3	American Society of Landscape Architecture
Sykes, Walter	Watershed Planning Specialist - 2	BS, MS - Civil Engineering	Watershed Planning Staff Leader - 2 Planning Engineer - 10 Soil Conservationist - 2 Design Engineer - 3 Civil Engineer - 1	Professional Engineer - CA
Wehri, Thomas	Planning Engineer - 4	BS - Civil Engineering	Engineering Technician - 3 Soil Conservation Technician - 6 Area Engineer - 2 Watershed & RB Eng. - 7 Engineering Design - 2	Professional Engineer - OR

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Appendices

APPENDIX A

FINDING OF NO SIGNIFICANT IMPACT/NEGATIVE DECLARATION FOR MITIGATION OF PREVIOUS CHANNEL CONSTRUCTION

Included here is a duplicate of the Finding of No Significant Impact/Negative Declaration that was published and circulated for public review in September 1981. (The page sequence and figure numbers of Appendix A are the same as the original published document.)

LLAGAS CREEK WATERSHED

Finding of No Significant Impact / Negative Declaration and Environmental Assessment

for Mitigation of Past Channel Work

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

USDA SOIL CONSERVATION SERVICE

FINDING OF NO SIGNIFICANT IMPACT/NEGATIVE DECLARATION
AND ENVIRONMENTAL ASSESSMENT
FOR
LLAGAS CREEK WATERSHED
Santa Clara County, California

SPONSORING LOCAL ORGANIZATIONS

Loma Prieta Resource Conservation District

Gavilan Water Conservation District

Santa Clara Valley Water District

September 1981

Prepared by:

United States Department of Agriculture
FRANCIS C. H. LUM
State Conservationist
Soil Conservation Service
Davis, California 95616

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APPENDIX 17

FINDING OF NO SIGNIFICANT IMPACT/NEGATIVE DECLARATION

Pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969; the Council on Environmental Quality Guidelines (40 CFR Part 1500); and the Soil Conservation Service Guidelines (7 CFR Part 650); the Soil Conservation Service, U.S. Department of Agriculture, gives notice that an environmental impact statement is not being prepared for proposed work on portions of the previously constructed channels for the Llagas Creek Watershed near the cities of Morgan Hill and Gilroy in Santa Clara County, California.

As part of Llagas Creek Watershed PL-566 Flood Prevention project, partial excavation of 10.9 miles of channel was done in 1971-72 by the California Department of Transportation (CALTRANS) for fill material for construction of the South Valley Freeway. Another 1.2 miles of channel construction were completed by the Soil Conservation Service in 1973. Due to environmental legislation, construction was stopped and the preparation of environmental documents was initiated. As a result of this previous construction work the flood damagable area was reduced approximately 3,400 acres resulting in $233,000 average annual benefits primarily to agriculture. Approximately 67 acres of riparian habitat were disturbed or removed by past work.

All works described in this document are to mitigate adverse impacts resulting from the above action. These works are compatible with proposed future plans for Llagas Creek and will add no future flood benefits. The environmental assessment of this federally assisted action indicates that the completion and mitigation of previously constructed portions of the project will not cause significant local, regional, or national impacts on the environment. As a result of these findings, Francis C. H. Lum, State Conservationist, has determined that the preparation and review of an environmental impact statement is not needed to complete portions of the previously constructed channel. An environmental impact statement will be prepared on all other remaining PL-566 works on Llagas Creek.

Completion of the partially constructed channels includes stabilization of the bottom and side slopes of channels previously roughly excavated by CALTRANS. Portions of channel bank and islands of riparian vegetation will require rock riprap extending up the banks from the bottom to prevent further erosion. Willow growth will be propagated from cuttings placed under the riprap on the lower half of the bank in Llagas Creek between Buena Vista and

Pacheco Pass Road. The removal of debris and gravel bars associated with correcting channel instability will be required. Water will also be restored to several previously cut off oxbows containing about 27 acres of riparian wildlife habitat. Previously constructed levees will be built up where settling has created depressions.

In addition, low flow channels to aid steelhead migration, and about 32 acres along the channels will be planted with native trees and shrubs. The plantings will be irrigated and a maintenance program implemented to assure establishment. Recorded agreements will be obtained to protect 3.5 acres of riparian habitat. Other works include the installation of 8 grade stabilization structures. Four of the grade stabilization structures would have fish ladders meeting the California Department of Fish and Game requirements.

The completion of the above described mitigation works will cost approximately $4,646,600.

The Notice of Finding of No Significant Impact has been forwarded to the Environmental Protection Agency. The Finding of No Significant Impact and the environmental assessment are being sent to various Federal, State, and local agencies and interested parties. The basic data developed during the environmental assessment are on file and may be reviewed by contacting Francis C. H. Lum, State Conservationist, Soil Conservation Service, 2828 Chiles Road, Davis, CA 95616, Telephone (916) 758-2200.

Implementation of the proposal will not be initiated until 30 days after the date of notification in the Federal Register.

Approved by:

State Conservationist

Date

ENVIRONMENTAL ASSESSMENT

Background

The Llagas Creek Watershed Project Plan was approved by the three local sponsors, Loma Prieta Resource Conservation District, Gavelin Water Conservation District, Santa Clara Valley Water District, and the governing bodies of Santa Clara County, Gilroy, and Morgan Hill in 1968 and authorized by Congress in 1969 under Public Law 83-566. Approximately 10.9 miles of channel were partially excavated by CALTRANS (formerly State Division of Highways) in 1971-72 to provide fill for the South Valley Freeway and to reduce the cost of the future flood control project. About 1.2 miles of channel work in Reach 1 were constructed under contract administered by the Soil Conservation Service (SCS) in 1973.

As a result of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), SCS stopped construction in 1974 to further evaluate environmental impacts. The local sponsors organized the Llagas Creek Citizens Advisory Committee to assist in finding ways to minimize adverse impacts and to recommend a project plan. After many public meetings, the local sponsors recommended a plan to SCS in 1976. That plan was presented in a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and distributed for interagency and public review in July 1979. Two months later a public hearing was held on the plan and EIS. Numerous citizens and some public agencies strongly opposed the plan on a variety of major issues. In March 1980, after several meetings with the opposition to clarify and better understand the issues, SCS and the sponsors agreed to restudy the proposed project. The results of the restudy indicated that several parts of the project would have only favorable environmental effects and would be carried out as a mitigation project whether or not the remainder of the project is installed. Other parts of the project associated with providing flood protection will be cleared by an environmental impact statement/environmental impact report (EIS/EIR).

Purpose of the Proposed Works

When CALTRANS partially excavated the channels, the other measures called for in the work plan such as grade stabilization structures, rock riprap, and vegetative ground cover were not installed.

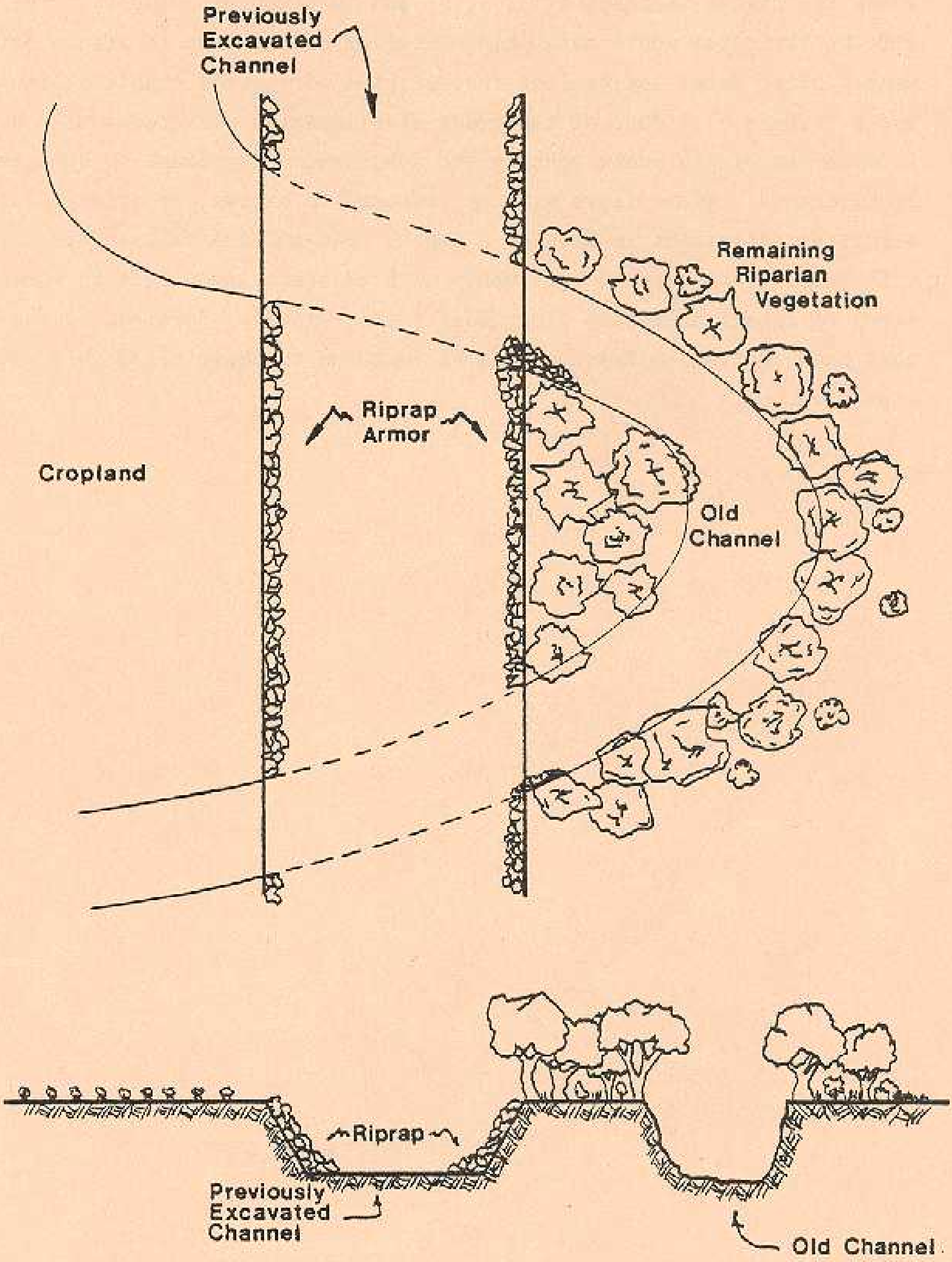
The purpose of the works proposed in this environmental assessment is to complete the portion of the project partially installed and to mitigate the environmental damages caused by the excavation. The proposed works are compatible and will function independently of additional flood prevention work to be cleared by an EIS/EIR. It will also allow the remainder of the project, once installed, to function for the purpose of flood prevention.

Alternatives

Two alternatives were evaluated. The no project alternative would involve no additional work or mitigation. The channels would continue to erode resulting in the loss of additional riparian habitat, the oxbow cut offs would continue to decline in biological productivity, and riparian habitat lost by previous work would not be mitigated. The proposed project would stabilize the eroding channels and riparian habitat, return low flows to the cut off oxbows, provide low flow channels for steelhead migration, and mitigate previously lost riparian habitat.

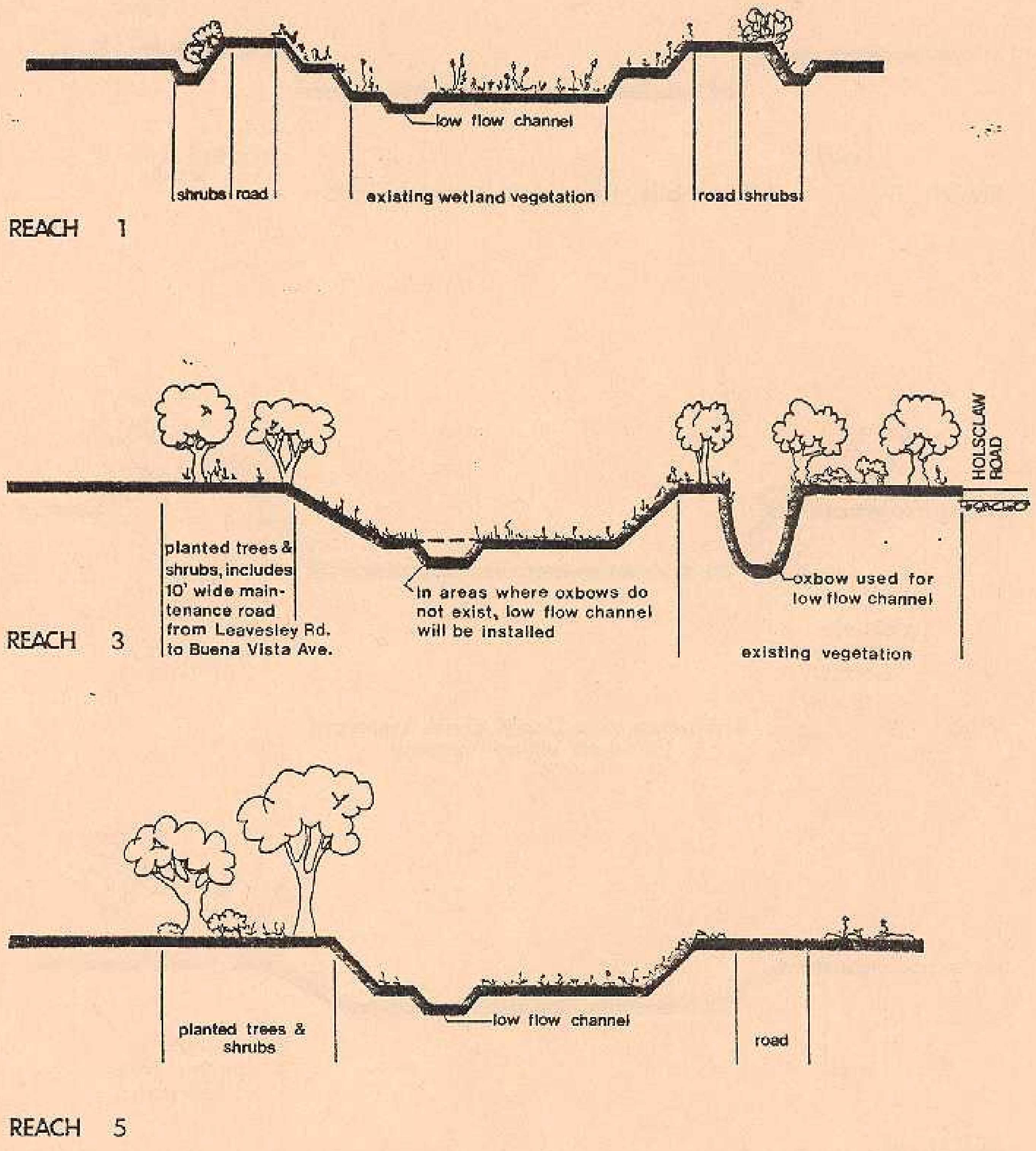
Proposed Work

Completion of the partially constructed channels include stabilization of the bottom and side slopes of channel Reaches 3, 5, and 14 (Figure 1) previously roughly excavated by CALTRANS. Portions of channel bank and islands of riparian vegetation remaining in Reach 3 will require rock riprap for bank protection (Figure 2). Willow cuttings will be placed under the riprap on the lower half of the bank to provide wildlife habitat plant growth. The removal of debris and some gravel bars will occur during channel stability work. Water will also be restored to several oxbows containing about 27 acres of riparian wildlife habitat.


Previously Excavated Channel
Remaining Riparian Vegetation
Riprap Armor
Cropland
Old Channel
Riprap
Previously Excavated Channel
Old Channel

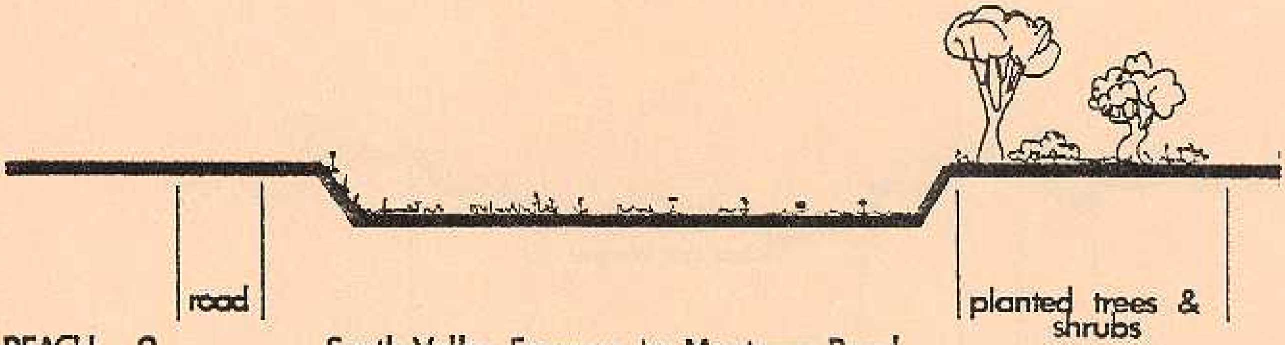
LOCATION of RIPRAP FIGURE 2

In addition, low flow channels in Reaches 1, 3, and 5 will be installed to aid steelhead migration. About 32 acres of native trees and shrubs will be planted along the channel Reaches 1, 3, 5, 9, and 14 (Figures 3 and 4). The plantings will be irrigated and a maintenance program carried out to assure establishment. Other works include the installation of 8 grade stabilization structures (Figure 5). Four of the grade stabilization structures will have fish ladders and plunge pools meeting the California Department of Fish and Game requirements. Water flows will be restored to oxbows cut off by past construction activities in Reaches 3 and 4. Santa Clara Valley Water District will enter into recorded agreements with adjacent landowners to preserve 3.5 acres of riparian habitat along East Little Llagas. Portions of the levees that have settled on Reach 1 will be restored to their previously constructed elevation.

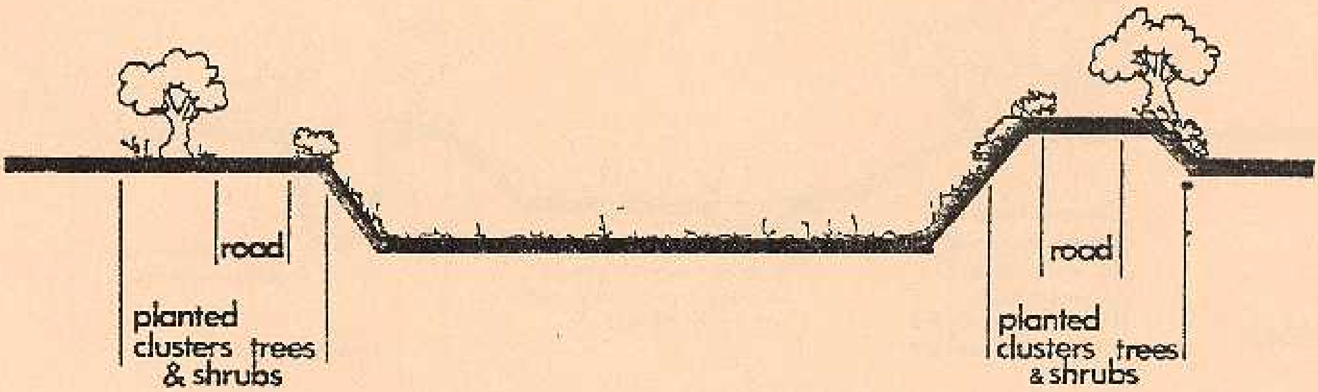

shrubs
road
low flow channel
existing wetland vegetation
road
shrubs
REACH 1
HOLSCLAW ROAD
planted trees & shrubs, includes 10' wide maintenance road from Leavesley Rd. to Buena Vista Ave.
in areas where oxbows do not exist, low flow channel will be installed
oxbow used for low flow channel
existing vegetation
REACH 3
planted trees & shrubs
low flow channel
road
REACH 5

TYPICAL MITIGATION PLANTINGS

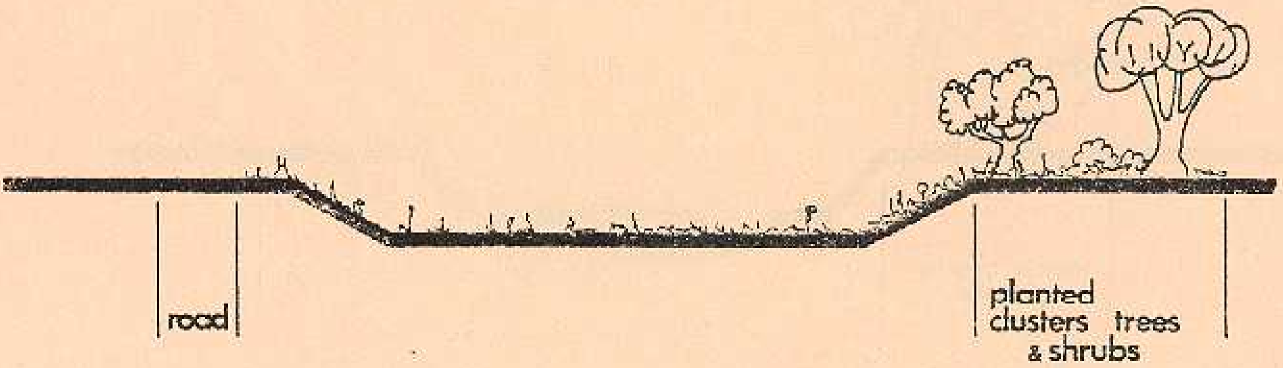
FIGURE 3



REACH 9 South Valley Freeway to Monterey Road


road
planted clusters trees & shrubs
road
planted clusters trees & shrubs

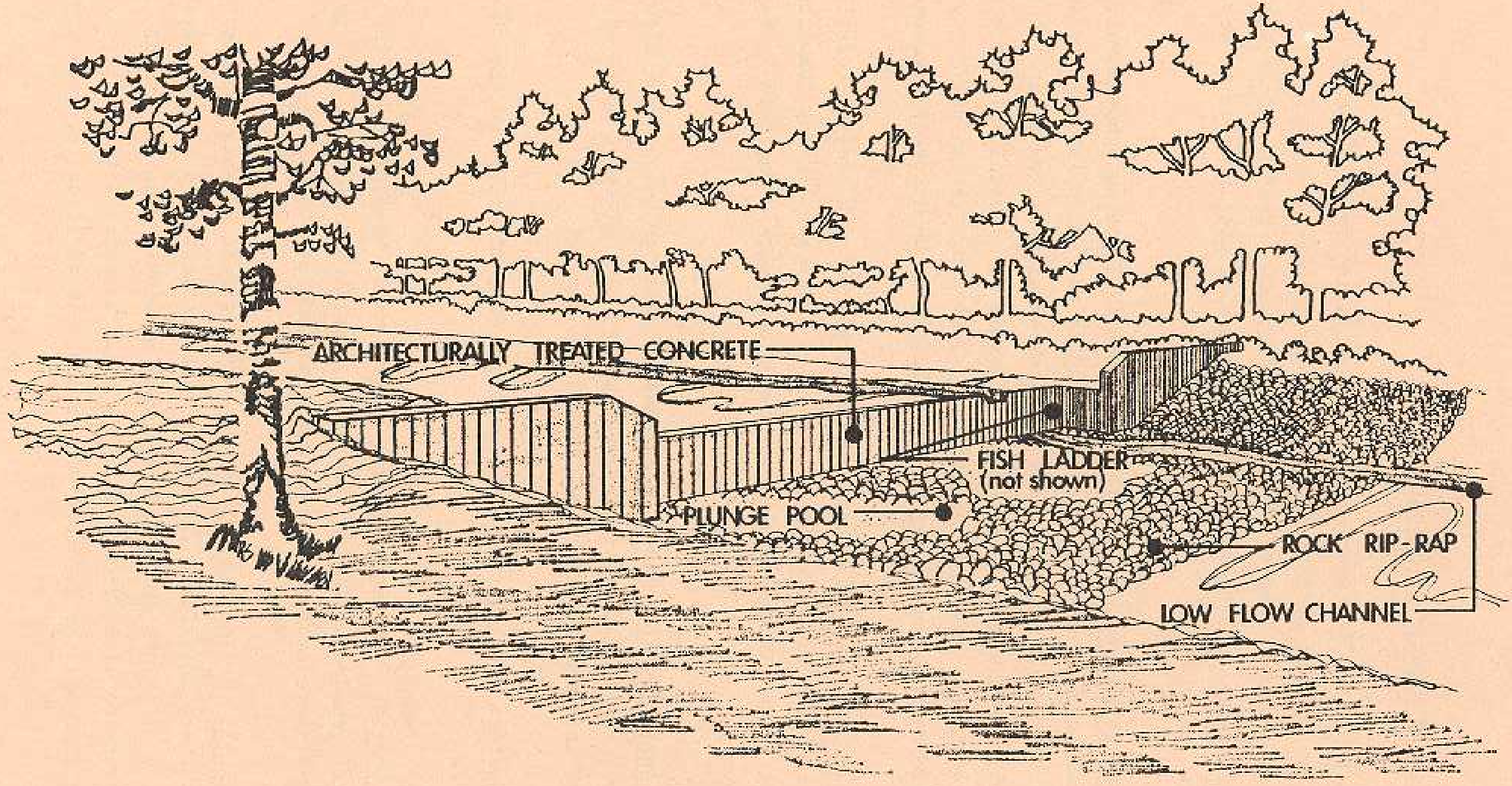
REACH 9 Confluence with Llagas Creek upstream to South Valley Freeway



REACH 14

TYPICAL MITIGATION PLANTINGS

FIGURE 4



GRADE STABILIZATION STRUCTURE - sketch

FIGURE 5

Setting and Impacts of Proposed Work

Floodwater: The portions of channels installed by CALTRANS reduced the floodplain for the one percent flood event approximately 3,400 acres resulting in an average annual damage reduction of $233,000. Most of these benefits accrued to agriculture. Installation of the work will not increase or decrease flood damages.

Erosion and Sedimentation: The reduction in flooding substantially reduced the erosion and sedimentation occurring in the floodplain as a result of floods. However, channel scour and bank erosion is now occurring because of the incomplete manner in which the channels were installed. Correction of these unstable conditions according to Soil Conservation Service criteria, will assure the functioning of the channels in an acceptable manner.

Land Use: No land use changes are anticipated with project installation. Areas in which the majority of work will occur are already committed to the project. Some of the riparian oxbows along Reach 3 may need to be acquired by easement.

Prime Agricultural Lands: No changes in prime or unique agricultural lands are anticipated with project installation. The proposed works will be installed in areas already committed to the project.

Groundwater: Project installation would have no effect on the groundwater resource.

Water Quality: Downstream water quality would be improved by the reduction of sediment from installation of erosion control measures and a slight reduction in temperature caused by shade produced from plantings.

Biological: Project installation would mitigate adverse impacts by past construction activities (Table 1). Habitat destroyed will be replaced by the planting of shrubs on 5.8 acres, riparian woodland on 14.2 acres, and trees and shrubs on 11.8 acres (Table 2). 21.5 acres of wetlands is already established, but will be afforded protection. In addition, project installation

TABLE 1
Llagas Creek Riparian Habitat Impacted

Reach Number	Removed (Acres)	Habitat Quality	Habitat[2] Units	Disturbed[1] (Acres)	Habitat Quality	Habitat Units
1	9.4	.2	1.9	-	-	-
3	24.8	1.0	24.8	19.6	1.0	19.6
4	-	-	-	7.1	1.0	7.1
5	2.8	.8	2.2	-	-	-
14	3.0	.5	1.5	-	-	-
TOTALS	40.0		30.4	26.7		26.7

[1] Water flows into riparian system reduced due to past construction.

[2] Habitat Units were calculated by multiplying habitat quantity (acres) by habitat quality (as determined by environmental assessment team).

TABLE 2
Llagas Creek Riparian Habitat Mitigation Summary

Reach No.	Habitat Type[1]	Preserved/ Replaced (Acres)	Habitat Quality	Habitat Units	Restored[2] (Acres)	Habitat Quality	Habitat Units
1	Shrubs	5.8	0.4	2.3			
1	Wetland[3]	21.5	0.6	12.9			
3	Riparian	5.5	0.7	3.9	19.6	1.0	19.6
4	Riparian	3.5[5]	1.0	3.5	7.1	1.0	7.1
5	Riparian	1.2	0.7	0.8			
9	Cluster Trees and Shrubs[4]	3.4	0.5	1.7	1.7		
9	Riparian	7.5	0.7	5.2			
14	Clustered Trees and Shrubs	8.4	0.5	4.2			
TOTALS		56.8		34.5	26.7		26.7

[1] Shrub species to be planted are coyote bush and quail bush planted from seed along the outer slope of the levee to provide dense ground cover. Riparian woodland species to be planted include California sycamore, Fremont cottonwood, valley oak, coast live oak, buckeye, Mexican blue elderberry and California blackberry. Planting densities will average 110 trees and 300 shrubs per acre. Clustered trees and shrubs will consist of the above species scattered in clusters.

[2] Water flows restored into oxbows.

[3] This acreage has already been established and will remain.

[4] Offsite mitigation.

[5] Recorded agreements obtained on portions of East Little Llagas to preserve riparian habitat.

will restore water to oxbows isolated by prior channel construction. Recorded agrrements with landowners will afford protection to 3.5 acres of riparian habitat. Fish passageways including a low flow channel and four fish ladders will facilitate reestablishment of the historic steelhead run. No threatened or endangered species would be impacted.

The rock riprap will provide shelter for ground squirrels which are a pest in agricultural areas. The squirrel control program along the riprap may require a more intensive effort.

Recreation: No adverse impacts to recreation would occur. Potential future recreational uses of the channels will be enhanced by the planting program.

Cultural: Site CA-SCL-452 is a prehistoric site located along East Little Llagas Creek in Reach 14. It was discovered during an archeological reconnaissance that was completed in March 1981. Dr. Robert Cartier, who conducted the study, believes the site is potentially eligible for the National Register of Historic Places (NRHP). A copy of the archeological report has been sent to the State Historic Preservation Officer with a request for his opinion on the site's eligibility for the NRHP.

The project will avoid disturbing the site. No earth moving will be done in the area, and vegetative work will be limited to grasses.

Visual Resource: The visual impacts of previous channel excavation will be mitigated as a result of the riparian habitat plantings.

AGENCIES AND PERSONS CONSULTED

The U.S. Fish and Wildlife Service, California Department of Fish and Game, Santa Clara Valley Water District, Gavilan Water Conservation District, Loma Prieta Resource Conservation District, Santa Clara County Planning Department, and Jerry Smith, Department of Natural Sciences, San Jose State University were consulted during the development of the mitigation plan. The archeological reconnaissance was done by Dr. Robert Cartier of the firm of Archeological Resource Management. A copy of his report has been sent to the State Historic Preservation Officer. Two public workshops were also held to discuss the feasibility of the above described works. People in attendance at the last workshop, including both proponents and opponents, expressed support for the issuing of a Finding of No Significant Impact/Negative Declaration for the proposed works.

APPENDIX

ENVIRONMENTAL IMPACT ASSESSMENT CHECKLIST

Explanations of all "Yes" and "Maybe" answers are required on attached sheets. If impact occurs during construction or is temporary, indicate with a "C" or "T" under Yes or Maybe.

	Yes	Maybe	No
1. Geology and Soils. Will the project result in:			
a. An increased hazard to the public resulting from geologic features of the site (landslide-prone areas, faults, slumping, etc.)?			X
b. Serious disruptions, displacements, compaction, or impervious covering of the soil?			X
c. Introduction of toxic materials in the soil or reduction of soil fertility?			X
d. Significant change in topography or ground surface relief features?			X
e. The destruction, covering or modification of any unique geologic or physical features?			X
f. Any substantial increase in wind or water erosion of soils, either on or off the site?			X
g. Changes in siltation, sediment transport, deposition or erosion which may modify a river, stream, or other body of water?	X		
2. Air. Will the project result in:			
a. Generation of air emissions (such as dust) that will seriously deteriorate air quality standards (either locally or regionally)?			X
b. The creation of objectionable odors?			X
c. Major alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?			X

	Yes	Maybe	No
3. Water. Will the project result in:			
a. Changes in currents, or the course or direction of water movements?			X
b. Changes in infiltration rates, sedimentation, drainage patterns, or the rate and amount of surface water runoff?	X		
c. Alterations in the course or flow of floodwaters?			X
d. An increase in downstream flood potential that might cause property damage?			X
e. Change in the amount of surface water in any body of water?			X
f. Contamination or any detrimental effect on existing water quality or quantities of either surface or subsurface supplies?			X
g. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?			X
h. Reduction in the amount of water otherwise available for public water supplies?			X
4. Noise. Will the project increase existing noise levels during construction or operations to the extent that existing or future residents would be annoyed?			X
5. Plant Life. Will the project result in:			
a. Change in the diversity of species, or numbers of any species of plants (including trees, shrubs, grasses, microflora, and aquatic plants)?	X		
b. Reduction of the numbers of any unique, rare or endangered species of plants?			X
c. Introduction of new plant species into an area, or a barrier to the normal replenishment of existing species?			X

	Yes	Maybe	No
6. Animal Life. Will the project result in:			
a. Changes in the diversity of species, or numbers of any species of animals (birds, land animals, including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	X		
b. Loss or disturbance of a nesting area for resident or migrating birds?			X
c. Reduction of the numbers of any unique, rare or endangered species of animal?			X
d. Introduction of new species of animal into an area, or result in a barrier to the migration or movement of animals (or fish)?			X
e. Deterioration of existing fish or wildlife habitat?			X
7. Land Use/Community Plans and Values. Will the project result in:			
a. Alteration or nonconformance with regional, federal, state or local land use plans and policies of the surrounding area?			X
b. Conflict or inconsistency with adopted policies, plans and goals of the community where the project is located?			X
c. Deterioration of the integrity or quality of the surrounding neighborhood? Loss of privacy or security to residents over the long term?			X
d. Generation of a substantial public controversy resulting from environmental concerns?			X

	Yes	Maybe	No
8. Economic. Will the project:			
a. Foster economic or population growth, either directly or indirectly, in the surrounding area (particularly if faster than planned for)?			X
b. Remove a major constraint or obstacle to growth?			X
c. Decrease employment in the community?			X
d. Reduce acreage or yield of an agricultural crop?			X
9. Population. Will the location, distribution, character, or density of the surrounding human population be altered by the project?			X
10. Housing. Will the project adversely affect existing housing or result in the relocation of existing housing?			X
11. Transportation/Circulation. Will the project result in:			
a. An adverse impact upon existing transportation systems?			X
b. Reduction in existing parking facilities, or create demand for new parking?			X
c. Alterations to present patterns of circulation or movement of people and/or goods?			X
d. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?			X
12. Public Services. Will the project result in a need for new or altered governmental services in any of the following areas:			
a. Fire or police protection?			X
b. Schools?			X
c. Parks or other recreational facilities?			X

	Yes	Maybe	No
d. Maintenance of public facilities (streets, highways, public transit, etc.)?			X
e. Flood Protection?	X		
f. Other governmental services?			X
13. Utilities. Will the project result in a need for new systems, or alterations to the following utilities:			
a. Power or natural gas?			X
b. Communications systems?			X
c. Water?			X
d. Sewers or septic tanks?			X
e. Storm water drainage?			X
f. Solid waste disposal?			X
14. Energy. Will the project result in:			
a. Use of substantial amounts of fuel or energy?			X
b. Substantial demand upon existing sources of energy, or require the development of new sources of energy?			X
15. Public and Environmental Health. Will the project result in:			
a. Creation of any known human health hazard or potential health hazard (excluding mental health but including physical injury)?			X
b. Involve the application, use, or disposal of toxic or hazardous materials?			X
16. Aesthetics. Will the project result in the obstruction or elimination or any scenic vista or view open to the public, or will the project result in the creation of an aesthetically offensive site or structure presently or potentially open to public view?			X

	Yes	Maybe	No
17. Recreation. Will the project result in an impact upon the quality or quantity of existing recreational opportunities (such as fishing, boating, hiking, horseback riding, bicycling)?		X	
18. Archeological/Historical. Will the project result in an alteration of a significant known archeological or historical site, structure, object or building? Is the project in a known archeologically sensitive area?		X	
19. Natural Resources. Will the project substantially increase the consumption of an non-renewable natural resource such as minerals, precious metals, prime agricultural land, natural gas, oil, etc.?			X
20. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)			X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)			X

	Yes	Maybe	No
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X

DISCUSSION OF ENVIRONMENTAL EVALUATION

1g. Erosion of channel banks will be significantly reduced resulting in less sedimentation in the stream channel.

3b. See 1g. above.

5a. Native species will be used to reestablish riparian habitat and will include trees, shrubs and grasses.

6a. Plantings will help restore lost habitat resulting in an increase of wildlife species and numbers native to the area.

12e. Santa Clara Valley Water District (SCVWD) will assume maintenance of plantings once established.

17. Wildlife species and populations should increase creating potential for photography, bird watching and hunting. Mitigation will be on SCVWD rights-of-way.

18. Consultant has conducted investigation and no sites will be impacted, although area is sensitive.

G. L. Bullard

DETERMINATION

On the basis of this Initial Study:

☒ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project.

☐ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Gary L. Bullard
Prepared by

Environmental Specialist
Title

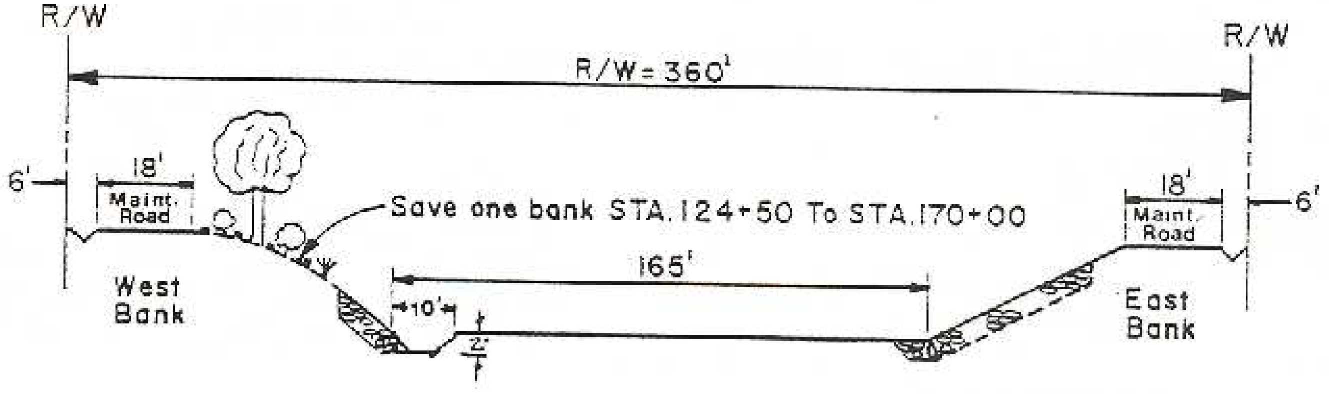
Date: 7-9-81

APPENDIX B

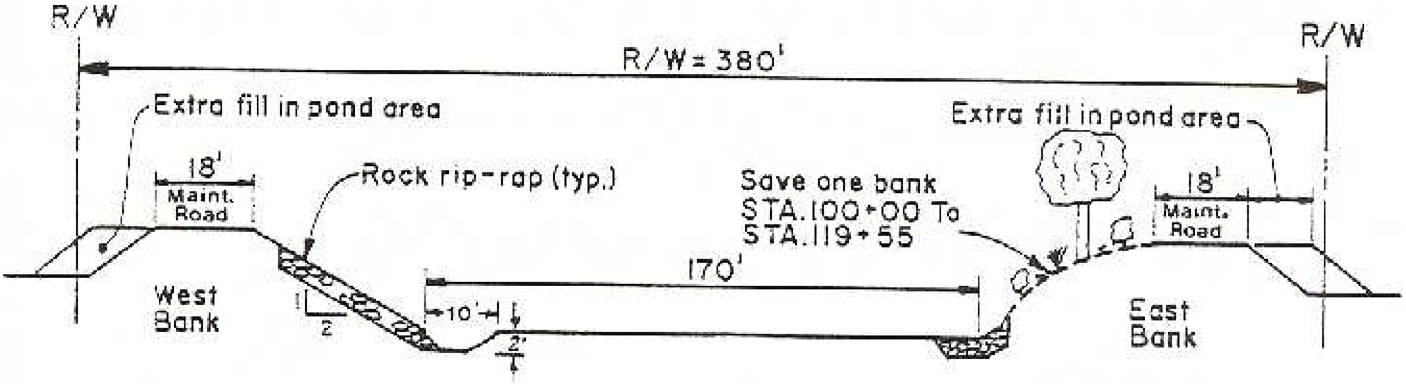
CHANNEL DIMENSIONS AND CROSS SECTIONS

The following cross sections are of the proposed flood control structural measures. The biological mitigation plantings are not included on these drawings.

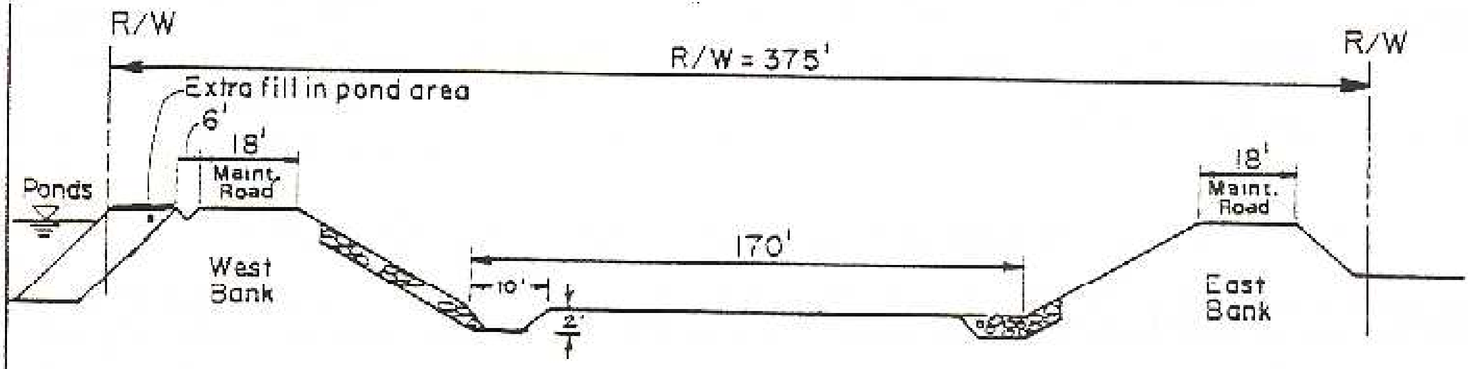
MAIN BRANCH LLAGAS CREEK



STA. 133+55 To STA. 182+00



STA. 100+00 To STA. 133+55



STA. 64+00 To STA. 100+00

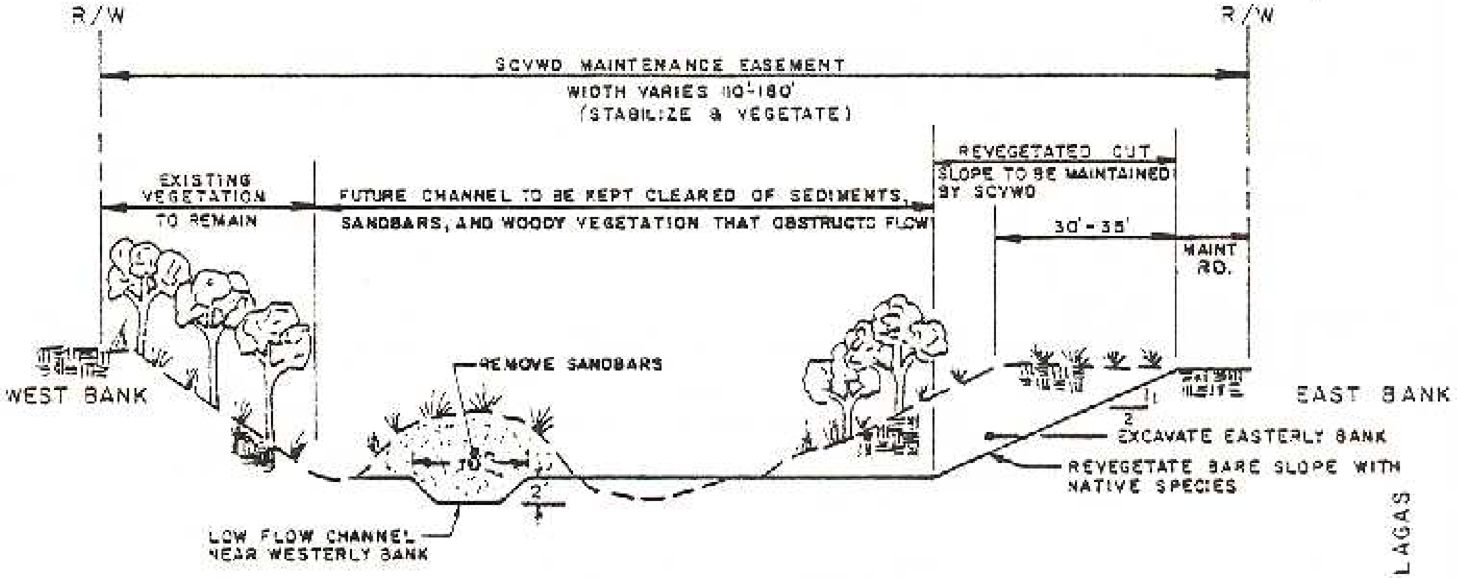
1700' U/S OF BLOOMFIELD RD. TO ROUTE 152

LOOKING UPSTREAM

REACH 2

FIGURE B-1

MAIN BRANCH LLAGAS CREEK

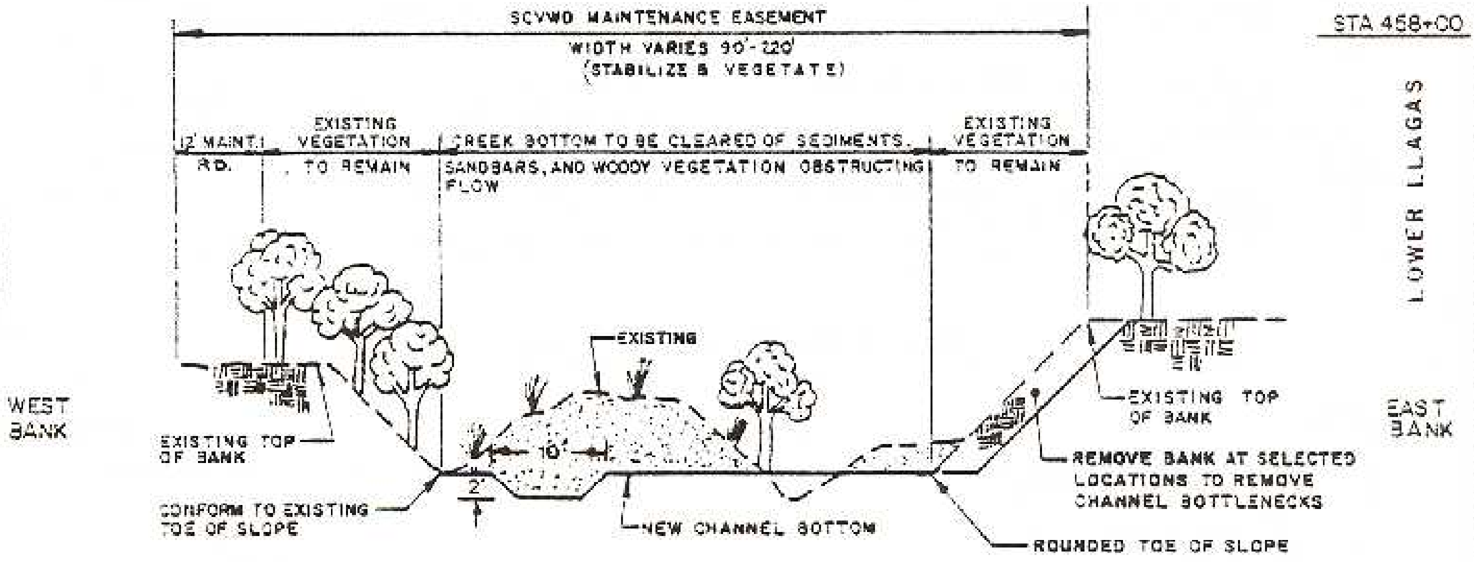

R/W
R/W
SCVWD MAINTENANCE EASEMENT
WIDTH VARIES 110'-180'
(STABILIZE & VEGETATE)
EXISTING VEGETATION TO REMAIN
FUTURE CHANNEL TO BE KEPT CLEARED OF SEDIMENTS, SANDBARS, AND WOODY VEGETATION THAT OBSTRUCTS FLOW
REVEGETATED CUT SLOPE TO BE MAINTAINED BY SCVWD
30'-35'
MAINT RD.
WEST BANK
EAST BANK
REMOVE SANDBARS
10'
2'
1
2
EXCAVATE EASTERLY BANK
REVEGETATE BARE SLOPE WITH NATIVE SPECIES
LOW FLOW CHANNEL NEAR WESTERLY BANK

STA 458+00(1000' d/s Masten) To STA 498+15(confluence w/ East Little Llagas)

UPPER LLAGAS

STA 458+00

LOWER LLAGAS


SCVWD MAINTENANCE EASEMENT
WIDTH VARIES 90'-220'
(STABILIZE & VEGETATE)
12' MAINT. RD.
EXISTING VEGETATION TO REMAIN
CREEK BOTTOM TO BE CLEARED OF SEDIMENTS, SANDBARS, AND WOODY VEGETATION OBSTRUCTING FLOW
EXISTING VEGETATION TO REMAIN
WEST BANK
EAST BANK
EXISTING
EXISTING TOP OF BANK
10'
2'
CONFORM TO EXISTING TOE OF SLOPE
NEW CHANNEL BOTTOM
EXISTING TOP OF BANK
REMOVE BANK AT SELECTED LOCATIONS TO REMOVE CHANNEL BOTTLENECKS
ROUNDED TOE OF SLOPE

STA 379+00(Buena Vista Ave) To STA 458+00(1000' d/s Masten)

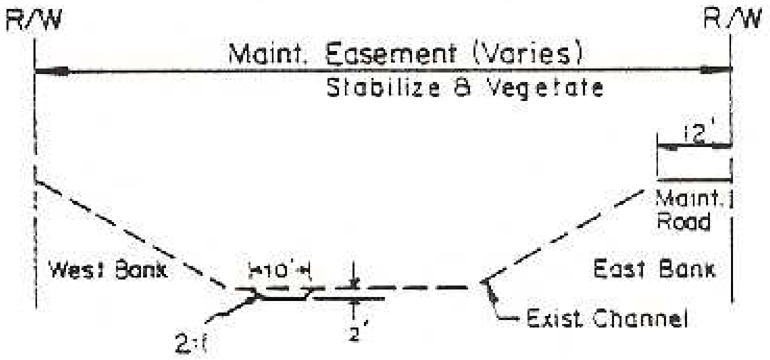
BUENA VISTA AVE. TO CONFLUENCE WITH EAST LITTLE LLAGAS CREEK

REACH 4

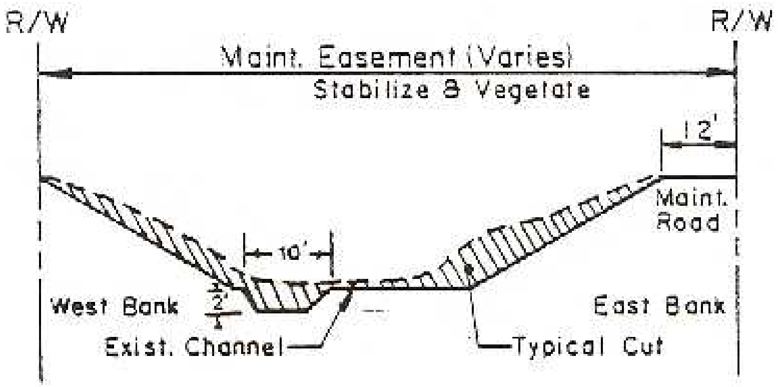
LOOKING UPSTREAM

FIGURE B-2

MAIN BRANCH LLAGAS CREEK



STA 546+70 (Church) To STA 661+00 (1100' d/s Llagas)



STA 522+00 (Murphy) To STA 546+70 (Church)

MURPHY AVE. TO CONFLUENCE WITH WEST LITTLE LLAGAS CREEK

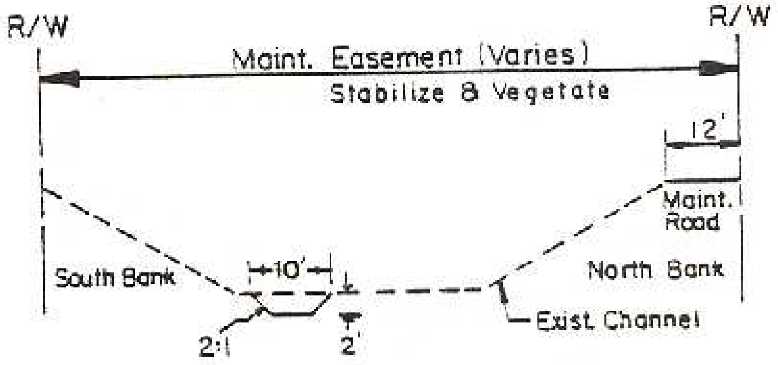
(STA 522+00 To STA 714+70)

REACH 6A

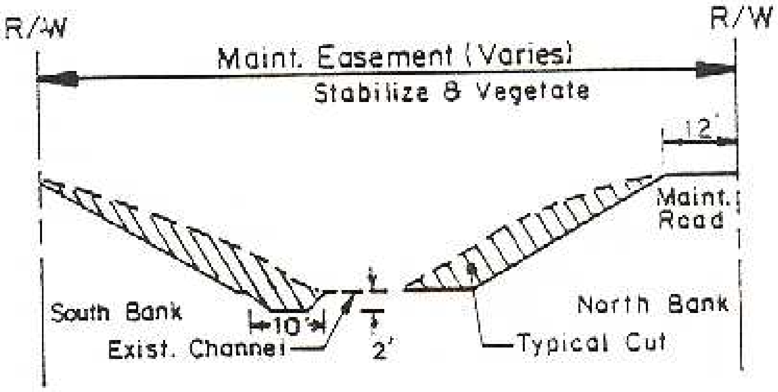
LOOKING UPSTREAM

FIGURE B-3

MAIN BRANCH LLAGAS CREEK



STA 684+50 (Monterey) To STA 714+70 (Confluence w/ West Little Llagas)



STA 661+00 (1100' d/s Llagas Ave) To STA 684+50 (Monterey Rd)

MURPHY AVE. TO CONFLUENCE WITH WEST LITTLE LLAGAS CREEK

(STA 522+00 To STA 714+70)

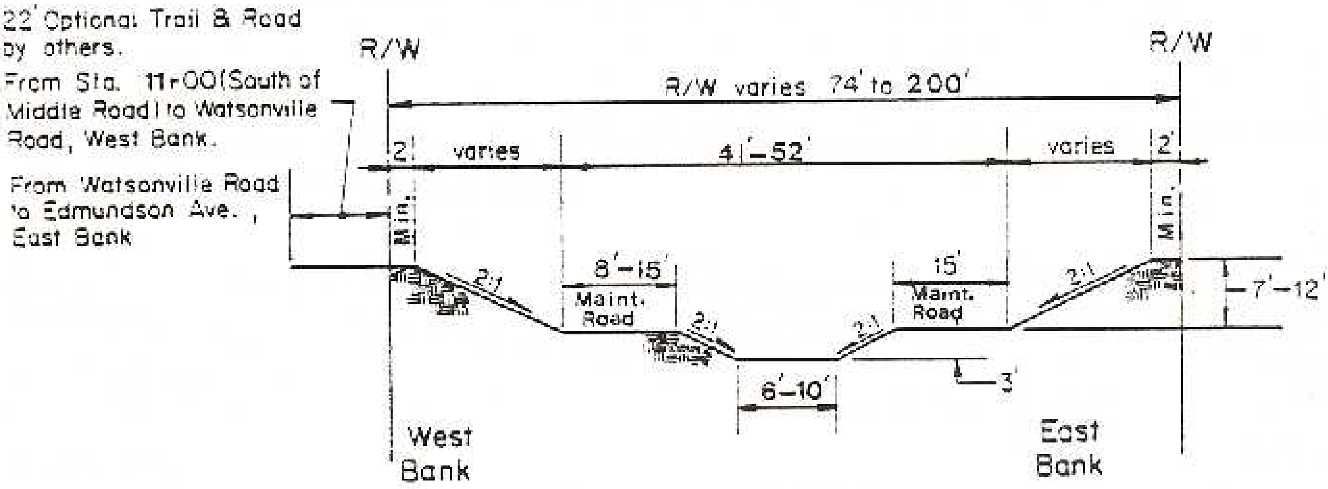
LOOKING UPSTREAM

REACH 6A

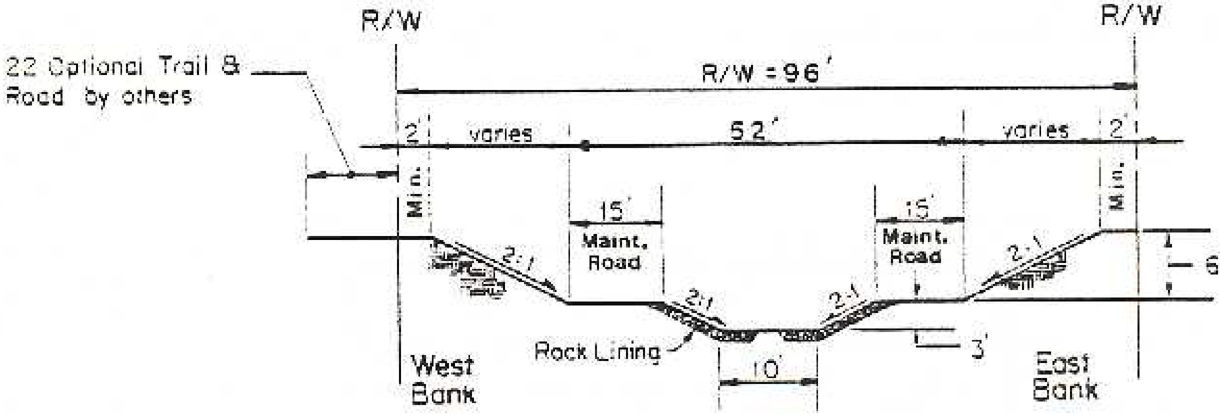
(CONT.)

FIGURE B-4

WEST LITTLE LLAGAS CREEK


22' Optional Trail & Road by others.
From Sta. 11+00 (South of Middle Road) to Watsonville Road, West Bank.
From Watsonville Road to Edmundson Ave., East Bank
R/W
R/W
R/W varies 74' to 200'
2'
varies
41'-52'
varies
2'
Min.
Min.
2:1
8'-15'
Maint. Road
2:1
15'
Maint. Road
2:1
2:1
7'-12'
6'-10'
3'
West Bank
East Bank

STA. 24+00 (700' d/s Middle Ave.) TO STA. 96+40 (Edmundson Ave.)



STA. 11+00 (Confluence w/Main Br.) To STA. 24+00 (700' d/s Middle Ave.)

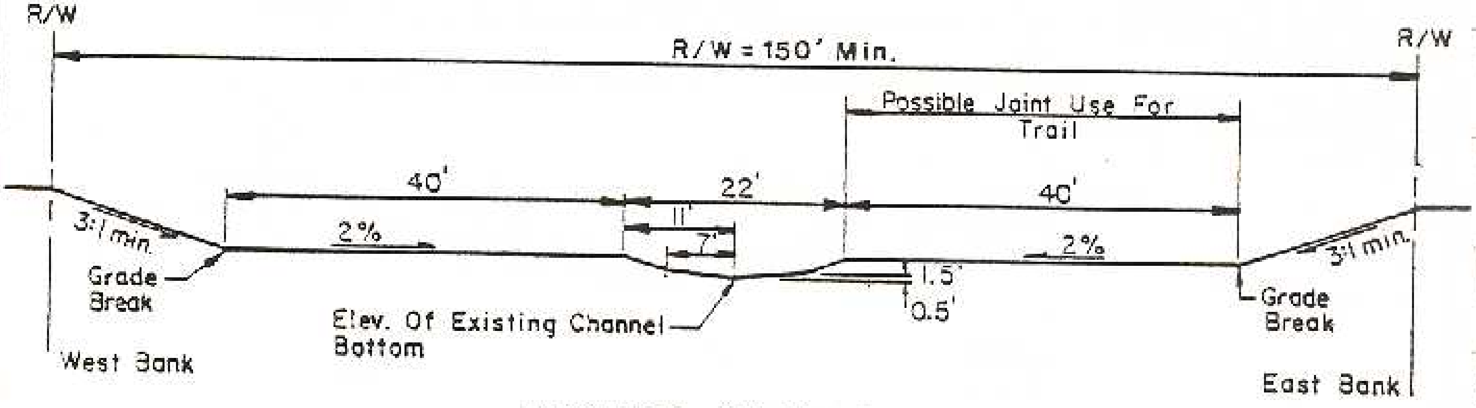
CONFLUENCE WITH MAIN BRANCH LLAGAS CR. TO EDMUNDSON AVE.

REACH 7a

LOOKING UPSTREAM

FIGURE B-5

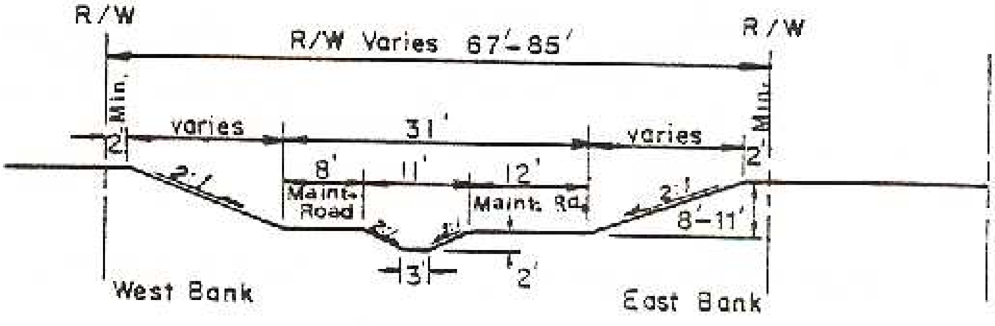
WEST LITTLE LLAGAS CREEK



INTERIM CHANNEL

Note: Interim Channel Is To Be Constructed By Developers If Development Occurs Prior To Start Of PL-566 Project.

STA 141+00 (300' d/s Dunne Ave) To STA 144+00 (Dunne Avenue)
Add One 5'x8' Cell To Existing Box Culvert



STA 96+40 (Edmundson Ave) To STA 138+00 (600' d/s Dunne Ave)

EDMUNDSON AVE. TO DUNNE AVE.

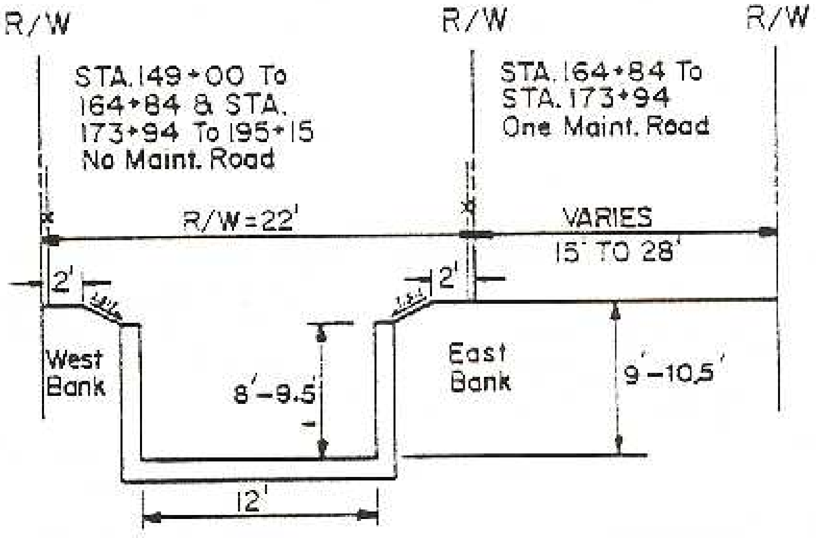
(1% Capacity)

LOOKING UPSTREAM

REACH 7b

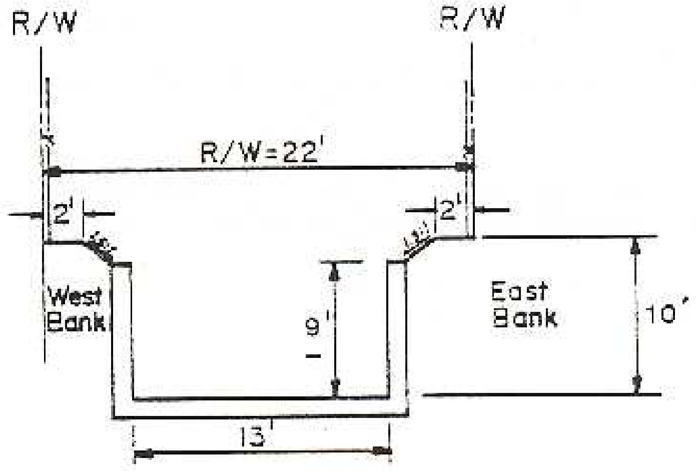
FIGURE B-6

WEST LITTLE LLAGAS CREEK


R/W
R/W
R/W
STA. 149+00 To 164+84 & STA. 173+94 To 195+15 No Maint. Road
STA. 164+84 To STA. 173+94 One Maint. Road
R/W=22'
VARIES 15' TO 28'
2'
2'
1.5:1
1.5:1
West Bank
8'-9.5'
East Bank
9'-10.5'
12'

Note: Possible future "lid" on top of concrete channel for pedestrian path from Dunne Ave. to Main Ave.

STA. 156+13 (Third St.) To STA. 195+15 (Wright Ave.)



STA. 144+00 (Dunne Ave.) To STA. 149+00 (Fifth St.)

DUNNE AVE. TO WRIGHT AVE.

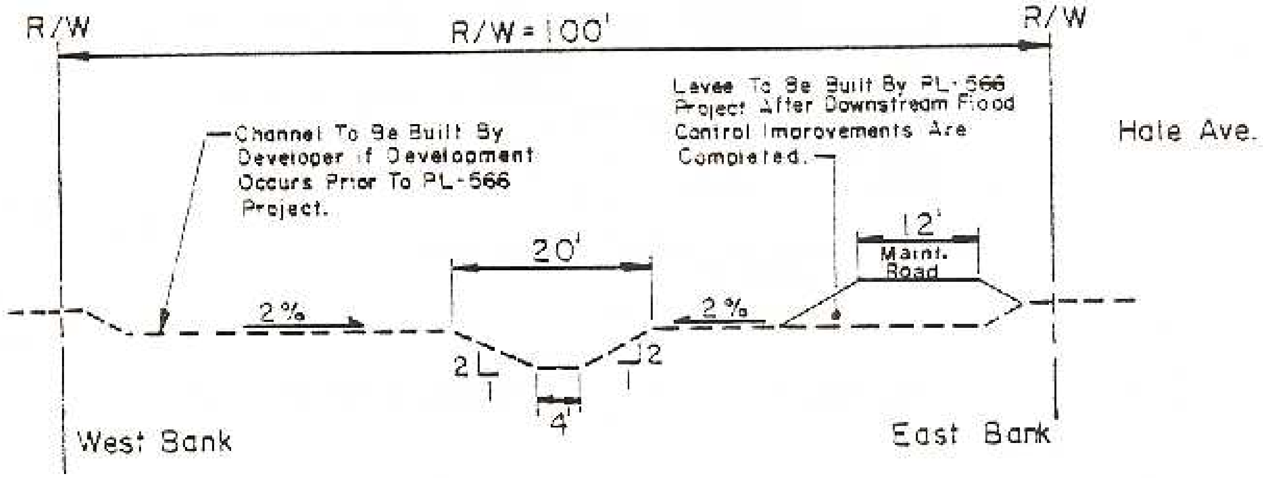
(1% Capacity)

REACH 8A

LOOKING UPSTREAM

FIGURE B-7

WEST LITTLE LLAGAS CREEK


R/W
R/W = 100'
R/W
Channel To Be Built By Developer If Development Occurs Prior To PL-566 Project.
Levee To Be Built By PL-566 Project After Downstream Flood Control Improvements Are Completed.
Hale Ave.
12'
Maint. Road
20'
2%
2%
2
1
2
1
4'
West Bank
East Bank

STA 195+15 (Wright Ave.) To STA 206+65 (1500' u/s Of Wright Ave.)

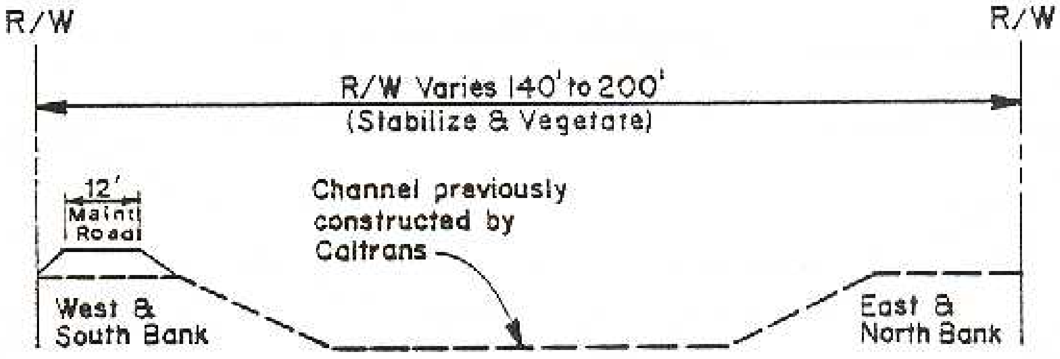
WRIGHT AVE TO STA 206+65 (ALONG HALE AVE.)

REACH 8b

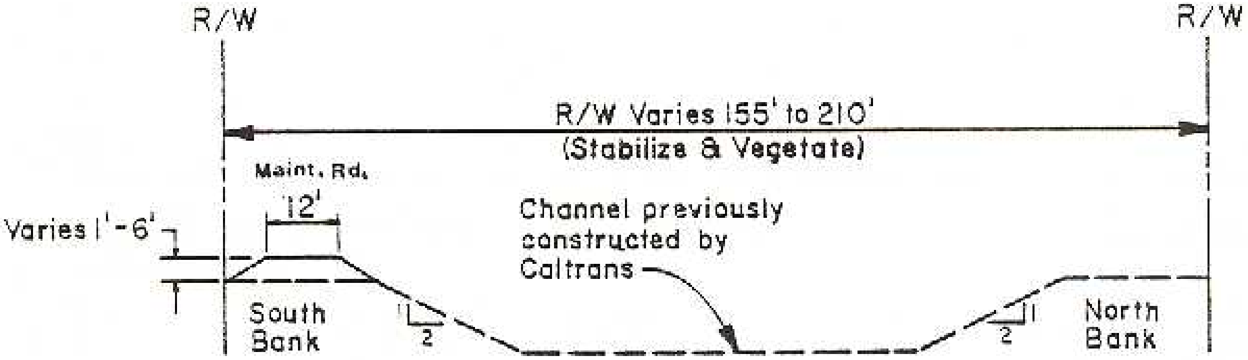
LOOKING UPSTREAM

FIGURE 8-8

WEST BRANCH LLAGAS CREEK



STA. 58+00 (South Valley Fwy.) To STA. 169+00 (Monterey Road)



STA. 0+00 (Confluence w/ Main Branch) To STA. 58+00 (South Valley Fwy.)

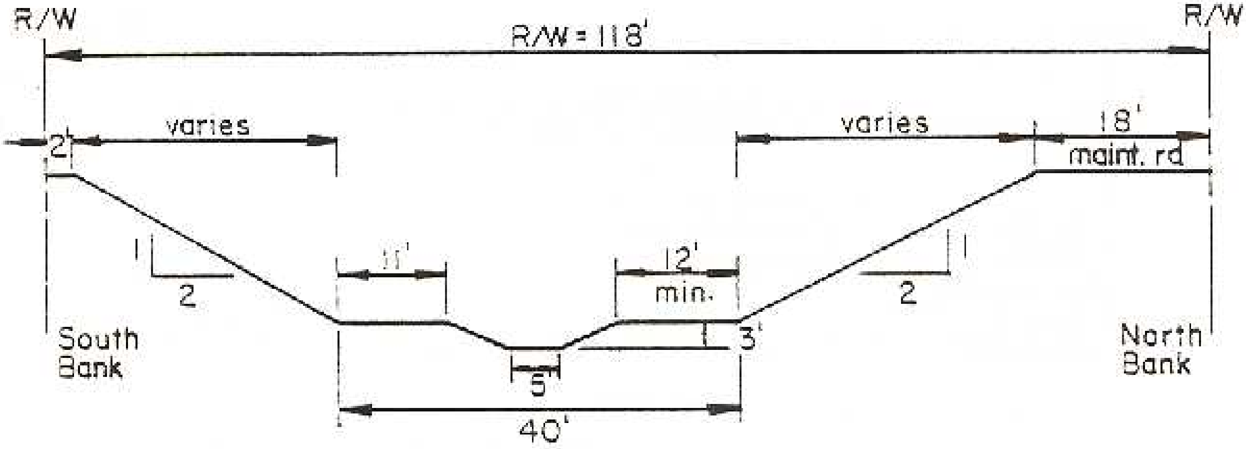
CONFLUENCE WITH MAIN BRANCH TO MONTEREY RD.

REACH 9

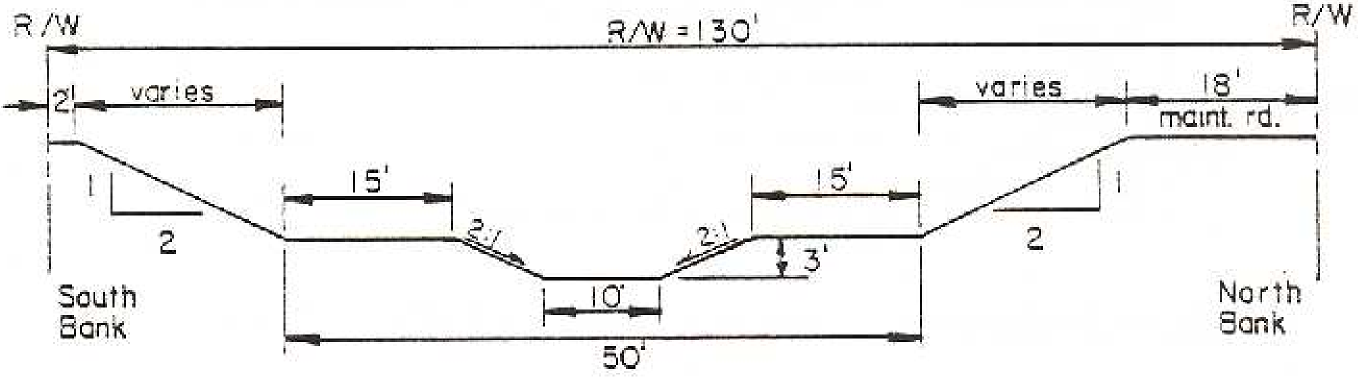
LOOKING UPSTREAM

FIGURE B-9

WEST BRANCH LLAGAS CREEK
AND A PORTION OF LIONS CREEK



STA. 182+00 (confl. w/ Lions Cr.) To STA. 195+00 (100' u/s Wren Avenue)



STA. 169+00 (Monterey Rd.) To STA. 182+00 (confl. w/ Lions Cr.)

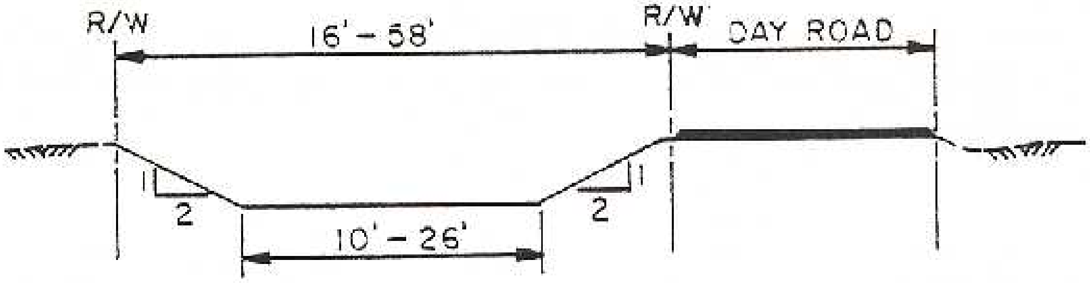
MONTEREY RD. TO 100' UPSTREAM OF WREN AVENUE

REACH 10

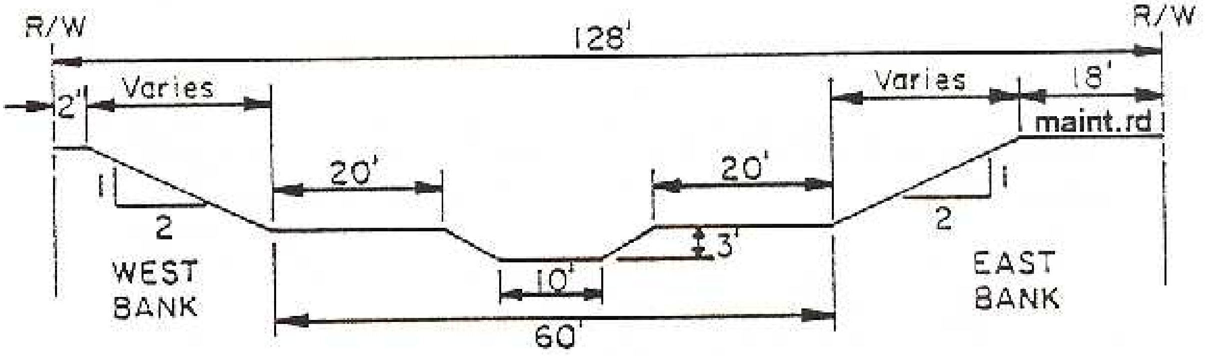
LOOKING UPSTREAM

FIGURE B-10

WEST BRANCH LLAGAS CREEK



TYPICAL INTERCEPTER CHANNEL ALONG N. SIDE OF DAY ROAD



Sta. 182+00 (Confl. w/ Lions Creek) to Sta. 220+00 (Day Road)

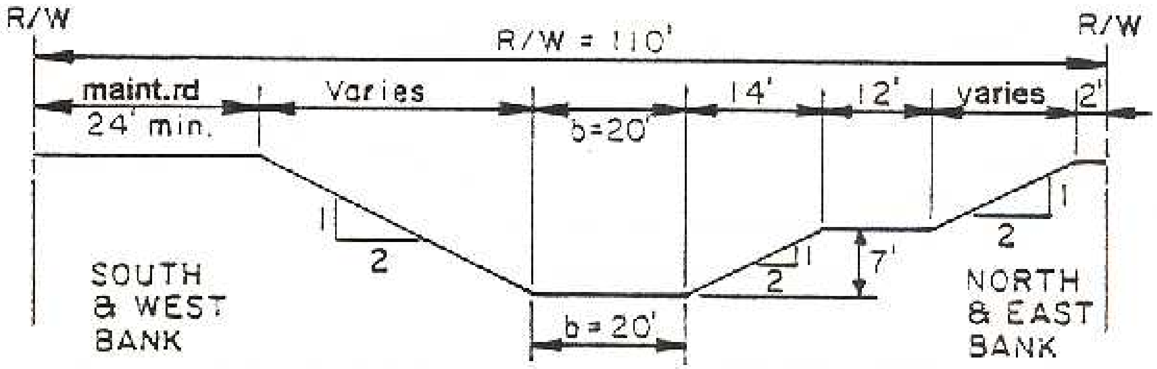
CONFLUENCE WITH LIONS CREEK TO DAY ROAD

REACH 11a

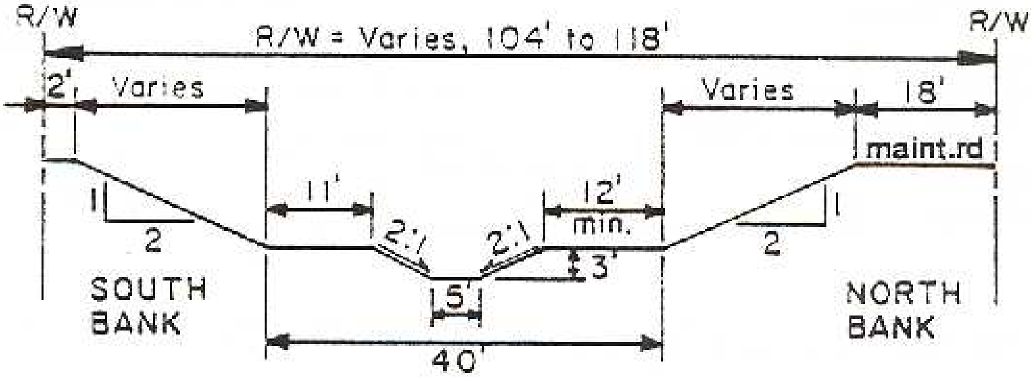
LOOKING UPSTREAM

FIGURE B-11

LIONS CREEK



Sta. 211+00 (Confluence w/ Morey Channel)
to
Sta. 236+50 (2000' U/S Conflu. w/ North Morey)



Sta. 195+00 (100' U/S Wren Ave.)
to
Sta. 211+00 (Confluence w/ Morey Channel)

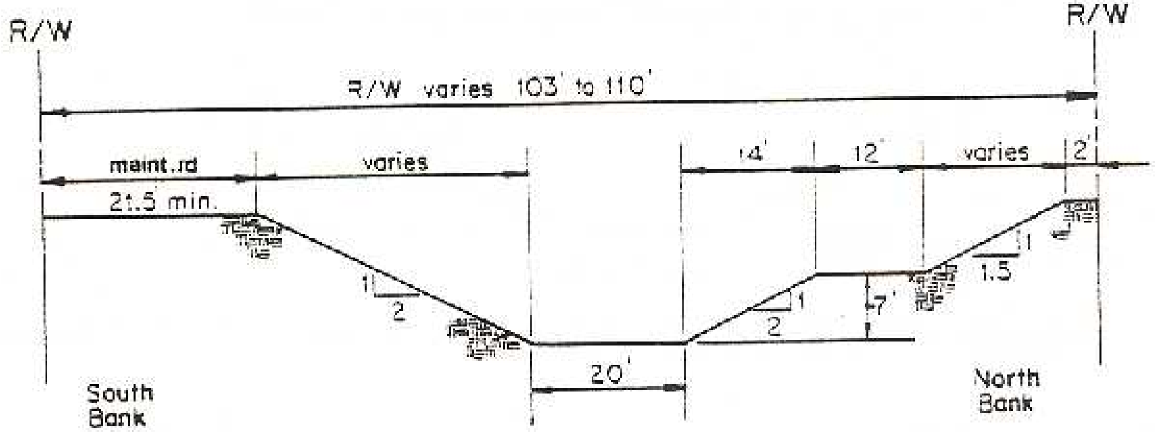
CONFLUENCE w/ WEST BRANCH LLAGAS to 3500' U/S of MOREY

REACH 12

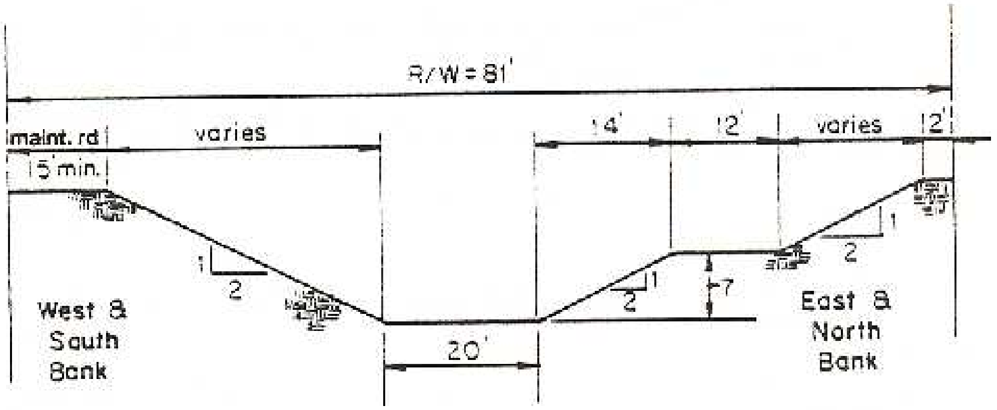
LOOKING UPSTREAM

FIGURE B-12

LIONS CREEK



STA. 250+00 (Morey Ave.) To 285+00 (3500' u/s Morey Ave.)



STA.236+50(2000' u/s of Morey Channel) To STA. 250+00 (Morey Ave.)

CONFLUENCE WITH WEST BRANCH LLAGAS TO 3500' U/S OF MOREY AVE.

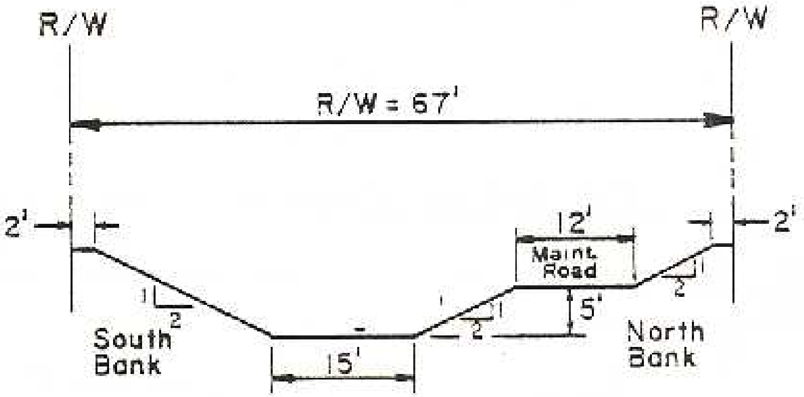
REACH 12

(Cont'd)

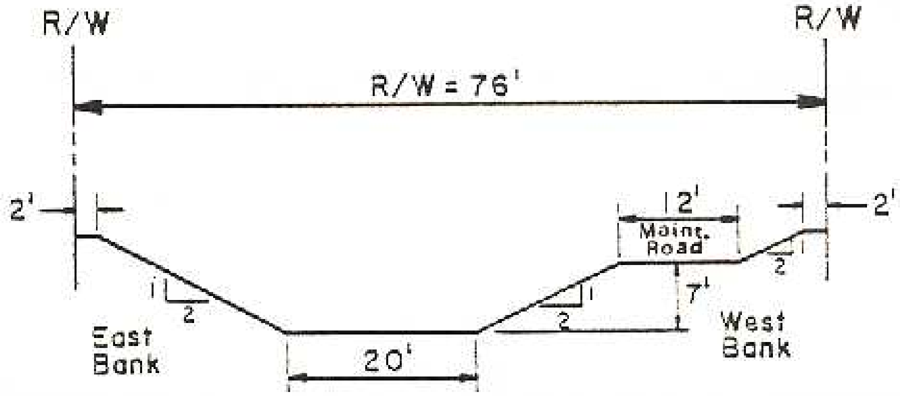
LOOKING UPSTREAM

FIGURE B-13

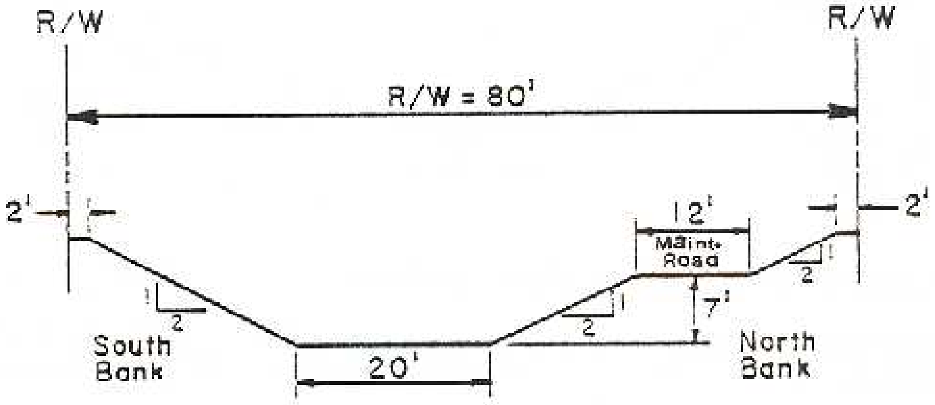
MOREY CHANNEL & NORTH MOREY CHANNEL



MOREY CHANNEL STA.230+00(1900' U/S Lions Cr.) To STA. 245+00 (Morey Ave.)



MOREY CHANNEL STA.211+00 (Confl. w/Lions Cr.) To STA.230+00(1900' U/S Lions Cr.)



NORTH MOREY CHANNEL STA.217+00(Confl. w/Lions Cr.) To STA. 233+00 (Morey Ave.)

CONFLUENCE WITH LIONS CREEK TO MOREY AVENUE

LOOKING UPSTREAM REACH 13

FIGURE B-14

APPENDIX C

BIOLOGICAL MITIGATION PLAN AND COOPERATIVE AGREEMENT BETWEEN GAVILAN WATER CONSERVATION DISTRICT AND THE CALIFORNIA DEPARTMENT OF FISH AND GAME

BIOLOGICAL MITIGATION PLAN SUMMARY

Riparian vegetation (19.1 acres) will be removed as a result of the proposed channel work in Reaches 2, 4, and 7b. Native trees and shrubs will be established by planting in rights-of-way to compensate for losses. Plantings will be irrigated during establishment. The remaining rights-of-way and levee areas will be seeded to annual grasses and shrubs. Herbaceous wetland vegetation will be allowed to grow in the channel bottoms to the extent that it does not interfere with flood flows.

Riparian Habitat Removed

Reach Number	Removed (Acres)	Habitat Quality	Habitat Units[1]
2	16.3	1.0	16.3
4	2.0	0.9	1.8
7b	0.8	0.3	0.2
TOTALS	19.1		18.3

[1] Habitat units were calculated by multiplying habitat quantity by habitat quality (as determined by an environmental assessment team) with 1.0 representing the highest quality habitat.

Riparian Habitat Mitigation Plan Summary

Reach Number/ Habitat Type[1]	Reestablished (Acres)	Habitat Quality	Habitat Units
2(s)	8.7	0.4	3.6
2(t/s)	4.9	0.5	2.4
2(r)	2.5	0.7	1.8
2(w)	24.5	0.6	14.7
TOTALS	40.6		22.5

[1] r = riparian woodland
s = shrubs
t/s = tree and shrub clusters
w = wetland

MITIGATION PLANTINGS

Mitigation plantings include approximately 2.5 acres of riparian woodland, 4.9 acres of tree/shrub clusters, and 8.7 acres of shrubs (Figures 1 and 2). Approximately 24 acres of additional wetlands will become established in Reach 2 by natural succession.

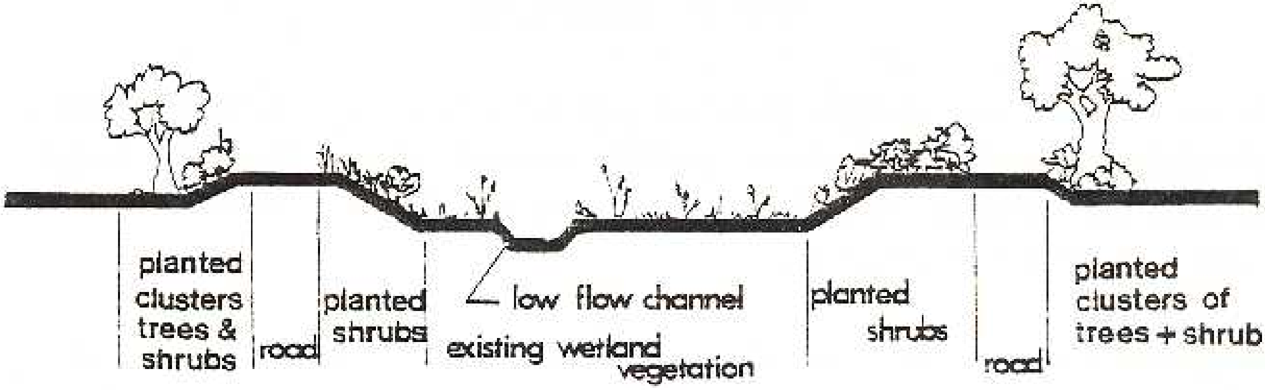
Mitigation plantings will be installed as soon as favorable conditions occur following channel construction. Where construction activities will not impact planting areas, revegetation will occur prior or during project construction. Selected trees existing along the creek that would be destroyed by construction activities will be moved by tree spade to previously constructed sites where feasible.

Federal contracts will be used to install and care for the plants until established. This period will be two years for the riparian woodland and tree/shrub clusters.

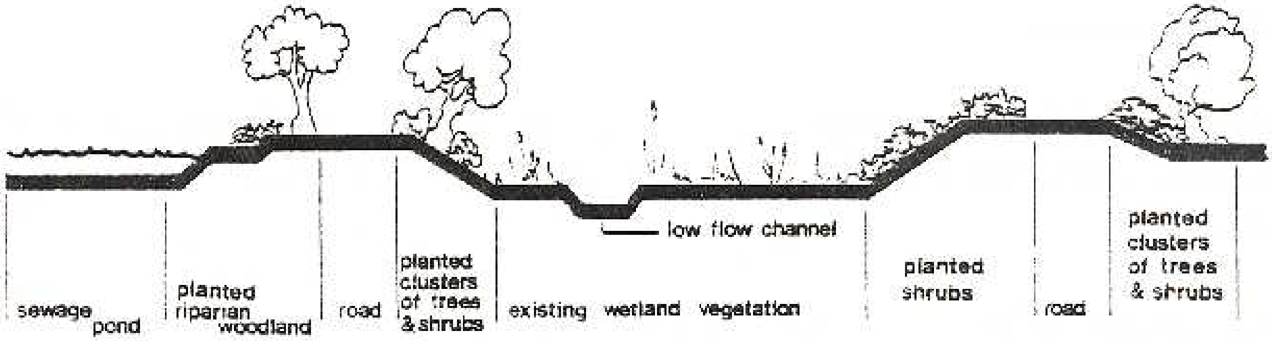
If competition from weedy vegetation becomes a problem, the use of herbicides will be permitted. If used, herbicides will be selected and applied in such a manner as not to jeopardize the wildlife and desirable vegetation. Sponsors will invite the California Department of Fish and Game, California Department of Forestry, and the U.S. Fish and Wildlife Service to participate in the annual O&M inspection. SCS, as a minimum, will include a biologist, engineer, and district conservationist on the inspection team.

Riparian Woodland

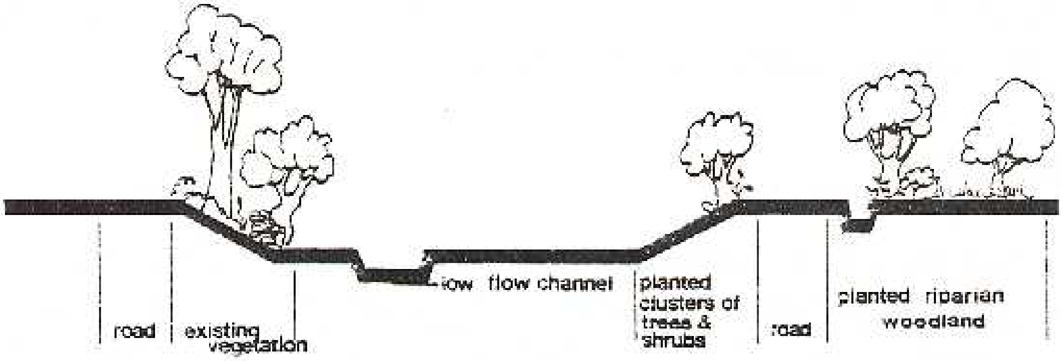
The following species of trees and shrubs will be established: California sycamore (Platanus racemosa), valley oak (Quercus lobata), Fremont Cottonwood (Populus fremonti), coast live oak (Quercus agrifolia), California black walnut (Juglans hindsii), California buckeye (Aesculus california), coyotebush (Baccharis pilularis), Mexican elderberry (Sambucus mexicana), California wild rose (Rosa california), and California blackberry (Rubus vitifolius).


planted clusters trees & shrubs
road
planted shrubs
low flow channel
existing wetland vegetation
planted shrubs
road
planted clusters of trees + shrub

REACH 2 length - 2,000 ft.


sewage pond
planted riparian woodland
road
planted clusters of trees & shrubs
low flow channel
existing wetland vegetation
planted shrubs
road
planted clusters of trees & shrubs

REACH 2 length - 3,200 ft.

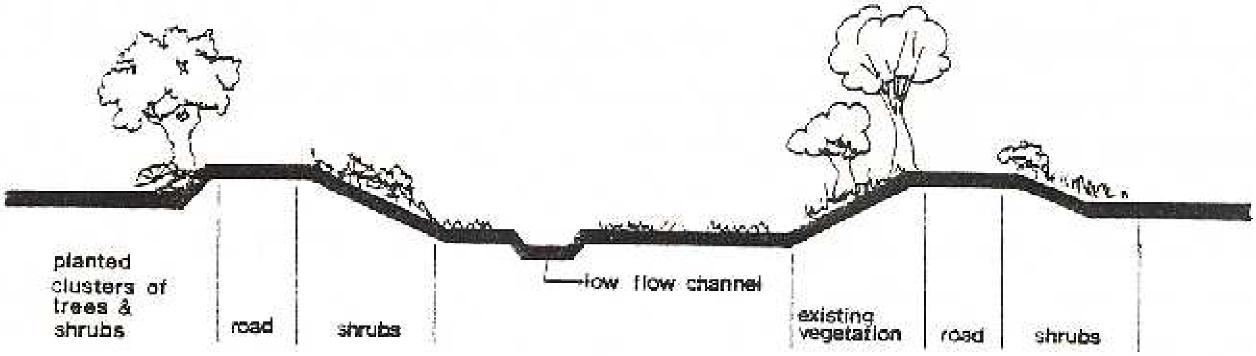


REACH 2 length - 4,200 ft.

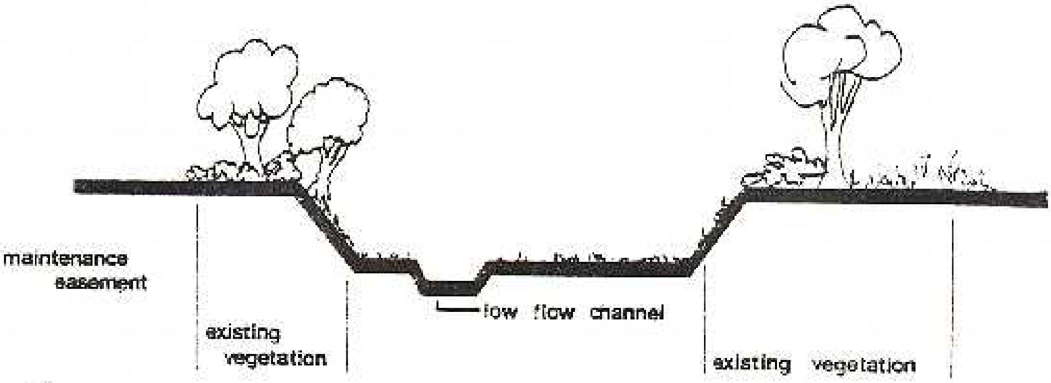
looking upstream

BIOLOGICAL MITIGATION PLANTING

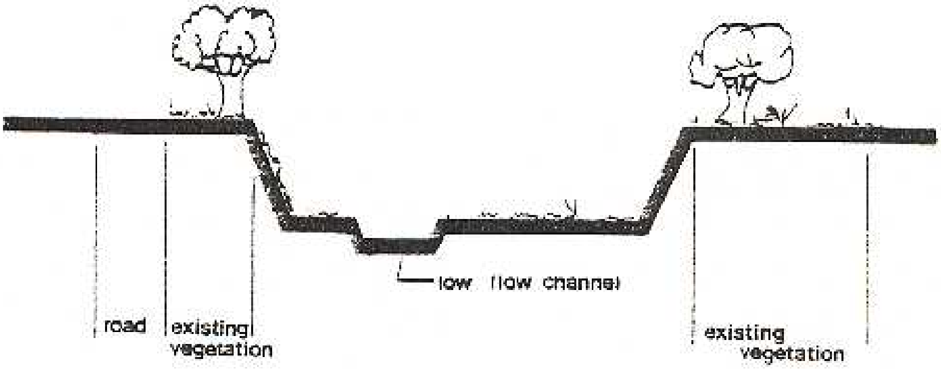
FIGURE C-



REACH 2 length - 2,400 ft.



REACH 4



REACH 6A

looking upstream

BIOLOGICAL MITIGATION PLANTING FIGURE C-2

Planting densities will average 110 trees and 300 shrubs per acre. Plants will be irrigated by a fixed irrigation system from April through October and replaced as needed during establishment.

Sponsors will continue irrigation of the plantings until they are able to survive without supplemental water. This will insure that the planted riparian trees and shrubs will adapt to the drier conditions encountered on levees and along channel banks.

Tree/Shrub Clusters

Species to be planted are valley oak (Quercus lobata), coast live oak (Quercus agrifolia), Fremont cottonwood (Populus fremonti), coyotebush (Baccharis pilularis), and quailbush (Atriplex lentiformis). California poppy (Eschscholzia californica), lupine (Lupinus sp.), and vetch (Vicia sp.) will be included in the erosion control planting of herbaceous annuals that will be established on areas between clusters.

The trees and shrubs will be planted in clusters spaced approximately every 50 feet. A planting basin will be constructed and graded to concentrate irrigation water around the plants. The trees and shrubs will be irrigated by truck watering as needed from April through October. Sponsors will continue irrigation until the plants are able to survive without additional irrigation.

Shrubs

Shrub species to be established are coyotebush (Baccharis pilularis) and quailbush (Atriplex lentiformis). Both will be direct seeded between mid-January and late March. The planting density will provide a solid canopy and inhibit ground squirrel use of the area. Shrubs will be irrigated by truck watering in June, August, and October. Sponsors will continue irrigation following the above schedule until the plants are able to survive without supplemental water.

Llagas Creek Mitigation Plan/Cooperative Agreement for Riparian/Fisheries Habitat

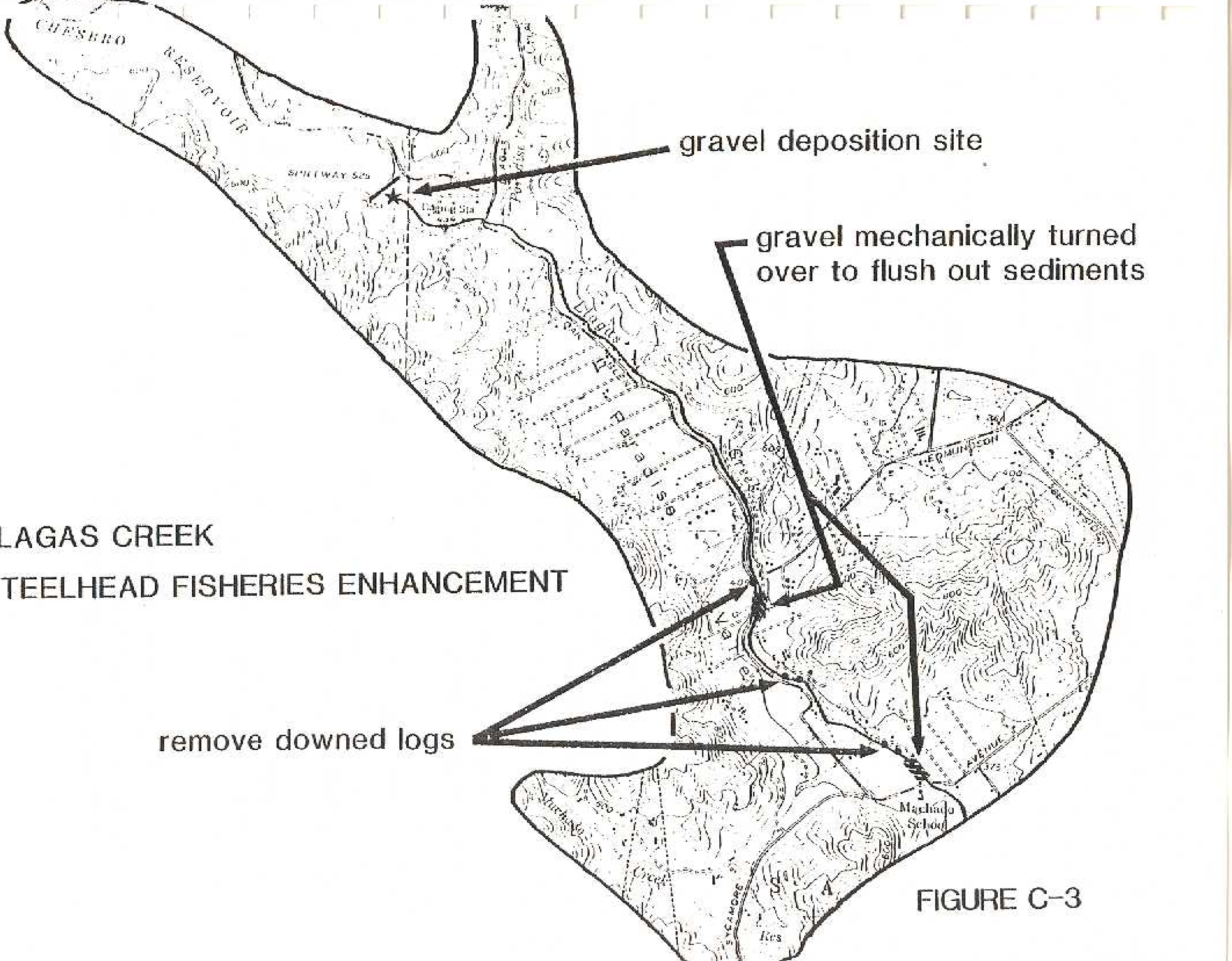
Description by Reach or Feature

Reach/Feature	Mitigation Description
2	This channel will be designed with a high n value (hydraulic coefficient of channel roughness) to allow the propagation of hydrophytic herbaceous vegetation in the channel bottom. A portion of the excavation work will be done from one side of channel to retain the banks containing the highest quality riparian systems. Plantings will include a variety of species. The inner face of levees will be planted with shrubs (e.g., *Atriplex lentiformis*, *Baccharis pilularis*). The areas adjacent to the outer portions of the levees will be planted with shrubs and trees (e.g., *Sambucus mexicana*, *Platanus racemosa*, *Quercus lobata*, *Q. agrifolia*, *Aesculus california*, and *Juglands hindsii*) planted in scattered clusters. The top of the spoil along the outside of the levee adjacent to the Gilroy sewage ponds will be planted to create a dense riparian woodland (20 feet by 5450 feet) except for an eighteen-foot wide access road. The species will be the same as above and will also include *Rosa california* and *Rubus vitifolius*. A low flow channel will be excavated along the west side of the channel to facilitate steelhead runs. Acres to be planted or allowed to revegetate naturally are: Wetland: 24.5 acres Riparian: 2.5 acres Shrubs: 8.7 acres Tree and Shrub Clusters: 4.9 acres
4, 6a	A low flow channel will be excavated on the west side of Llagas Creek to facilitate the upstream migration of steelhead. The

Reach/Feature	Mitigation Description
4, 6a	drop structure will be placed in East Little Llagas in such a manner to prevent steelhead from entering that tributary.
Fish Passage Structures	Adequate passage (fish ladders) will be provided for steelhead migration at each grade stabilization structure within the mainstream of Llagas Creek.

Cooperative Agreement Description

Steelhead Spawning Habitat	Steelhead spawning areas along Llagas Creek above Santa Teresa Boulevard will be restored and maintained. Gravel will be stirred and flushed at an appropriate time and in a manner not detrimental to spawning, incubation, or survival of juvenile fish. Gravel will be imported and placed downstream of Chesbro Reservoir to provide additional spawning habitat. Trees downed within the upper channel will be removed if they interfere with steelhead migration (Figure C-3). Steelhead will be introduced into Llagas Creek for three consecutive years. These items will not be project cost-shared but accomplished by the following cooperative agreement (page C-10) between Gavilan Water Conservation District and the California Department of Fish and Game.



gravel deposition site

gravel mechanically turned over to flush out sediments

remove downed logs

LLAGAS CREEK

STEELHEAD FISHERIES ENHANCEMENT

FIGURE C-3

COOPERATIVE AGREEMENT
between
THE GAVILAN WATER CONSERVATION DISTRICT
and the
STATE OF CALIFORNIA, DEPARTMENT OF FISH AND GAME

THIS AGREEMENT is made and entered into this 2nd day of February, 1982, by and between the State of California, acting by and through its Department of Fish and Game, hereinafter referred to as STATE, and the Gavilan Water Conservation District, hereinafter referred to as DISTRICT.

THIS AGREEMENT shall become effective on the date of the second signature, and shall remain in effect for five (5) years. This agreement may be modified or terminated at any time by mutual consent of both parties, or may be terminated by either party above by giving thirty (30) days notice in writing to the other party.

WHEREAS, DISTRICT in cooperation with Santa Clara Valley Water District and Loma Prieta Resource Conservation District plans to construct certain improvements on lower Llagas Creek to reduce the severity and extent of flooding in urban and agricultural lands in the surrounding area; and,

WHEREAS, a diversity of fish and wildlife species utilize the area of the proposed construction operation; and,

WHEREAS, both parties have concluded that the proposed operations may be constructed so that fish and wildlife populations may be preserved and enhanced with the implementation of certain measures; and,

WHEREAS, the preservation of fish and wildlife resources in Llagas Creek would be of significant benefit to the people of the STATE OF CALIFORNIA; and,

WHEREAS, the planned project on lower Llagas Creek includes the installation of fish passage facilities and low flow channels for upstream and downstream migration of steelhead rainbow trout.

NOW, THEREFORE, it is mutually agreed by and between the parties as follows:

(1) DISTRICT will rehabilitate and maintain steelhead spawning gravels in the stream reach from Chesbro Dam to Santa Teresa Boulevard. This program may include (a) spawning gravel replenishment; (b) early winter mechanical scarification of major spawning riffles to prevent gravel compaction and facilitate the flushing of silts and sands by winter flows; and (c) periodic control of vegetative encroachment on spawning riffles. Work done by DISTRICT will be limited to those items identified by STATE as necessary for the enhancement of the Llagas Creek steelhead fishery and approved by DISTRICT, and shall be contingent upon availability of DISTRICT funds and granting of necessary permits and easements for work to be accomplished.

(2) STATE will identify specific items necessary for the enhancement of the Llagas Creek steelhead fishery in the stream reach from Chesbro Dam to Santa Teresa Boulevard, including such items as locations for gravel placement, vegetation removal on spawning areas, and mechanical scarification of spawning riffles.

(3) STATE will undertake a three-year program of stocking young steelhead rainbow trout in Llagas Creek to reestablish the fishery resource. This program will consist of distributing fish during the spring of each of three years.

(4) STATE agrees to cooperate with DISTRICT by evaluating the effects of completed measures on fish and wildlife resources and will help DISTRICT formulate desirable changes in future enhancement measures.

(5) It is the essence of this agreement that the rehabilitation of the steelhead trout fishery resource is a joint goal of both parties and that both will cooperate to the extent possible in the achievement of that goal.

GAVILAN WATER CONSERVATION DISTRICT
Michael C. Kennedy
Signature
30 January 1982
Date

STATE DEPARTMENT OF FISH AND GAME
Signature
2-1-82
Date

APPENDIX D

LANDSCAPE MITIGATION PLAN

Landscape Mitigation

The landscape mitigation plan for the Llagas Creek Watershed project is being developed as a series of five steps. These are: PLANNING, DESIGN, INSTALLATION, ESTABLISHMENT PERIOD, and OPERATION AND MAINTENANCE.

Presently, the planning and conceptual design phases have been implemented and are compatible and supportive with the biological mitigation plantings.

Planning Phase

The Llagas Creek Watershed project was analyzed for landscape resource impacts by use of SCS Technical Release No. 65, Procedures to Establish Priorities in Landscape Architecture. Areas of critical or important environmental impacts identified in this analysis will receive the most mitigation work.

Landscape mitigation will be installed in phases as channel construction proceeds. It may also be installed concurrently with riparian mitigation.

Proposed channel types and alignments will be analyzed on a site specific basis. Impacts to the public, private landowners, the site and the environment will be noted and will become criteria in the landscape design process. This criteria will include landowner requirements, sponsor obligations, visual resource quality, landscape use, visibility, access, solar orientation, pedestrian and vehicular circulation, wildlife, viewsheds, prevailing winds, existing vegetation, and zoning. Landowners affected by project mitigation measures will be kept fully informed and involved in the landscape design process.

Design Phase

During the design phase, the various project criteria, obligations, and opinions are formulated into possible landscape elements. Landowners and involved agencies are contacted and their desires and requirements are added to the design process. A landscape plan is then selected and detail landscape designs prepared.

Design Concepts Applicable to Llagas Creek Watershed

--Save mature trees within rights-of-way that will not restrict construction equipment.

--If feasible, root prune and transplant desirable existing vegetation.

--Construct tree wells or walls around trees to be saved where grade changes must occur.

--Utilize native, low maintenance, and functional vegetation. Plant materials will be chosen for their ability to form windbreaks, provide shade and reflect heat, attenuate noise, filter dust and odors, provide privacy and wildlife habitat. In addition, the trees height at maturity, foliage type, litterdrop, longitivity, resistance to insect pests or diseases, and maintenance requirements will be considered.

--Plant material will be primarily container grown to minimize transplant shock.

--Plant trees, shrubs, and annuals from seeds where container grown stock is not justifiable.

--If necessary to assure availability, advance purchase and procurement of plants will be used.

--Visually sensitive areas and areas of high wildlife value will receive emphasis.

--Where rights-of-way are restricted, architectural fencing will be installed to visually separate incompatible areas.

--Where concrete will be used in highly visible areas, architectural form liners and color pigments will be added to the concrete mix to tone down reflectiveness and contrast.

--Spoil piles will be blended into existing landscape.

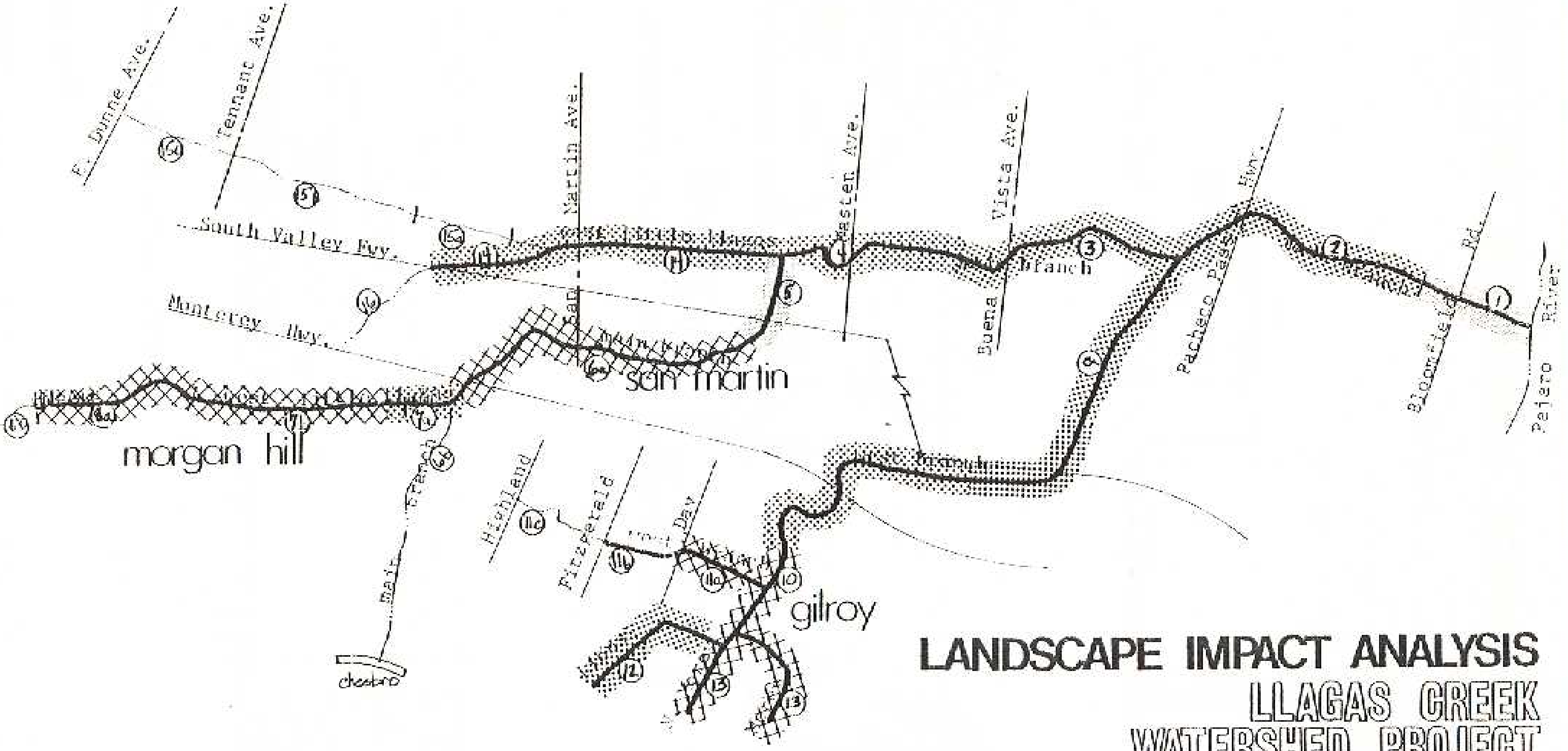
Sponsors will review plant material locations for conformance with maintenance requirements. After landowner, sponsor, and SCS approval, final landscape drawings and specifications will be prepared.

Installation

SCS will administer a separate Federal contract for landscape installation. The landscape contractor will remain on the same easement areas as channel contractor and utilize the same points of ingress and egress. Upon completion of installation, the plant establishment period will begin.

Establishment

For a period not to exceed two years, the landscape contractor will maintain all newly installed plants. The contractor will water, fertilize, reset staking, weed, and replace dying or dead plants in order to insure healthy, vigorously growing plants at the end of the establishment period.



LANDSCAPE IMPACT ANALYSIS

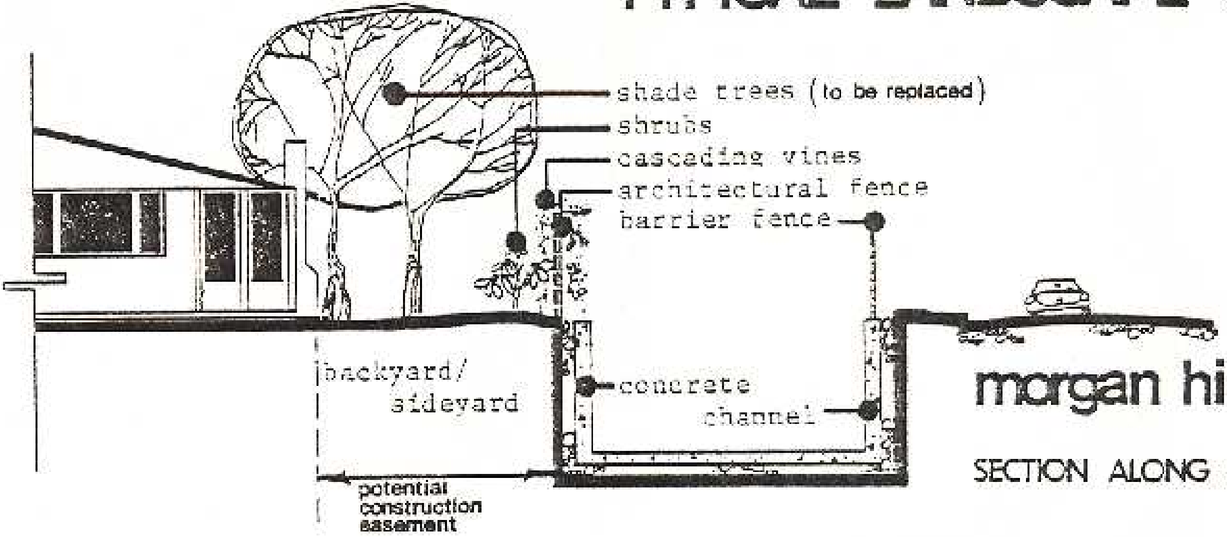
LLAGAS CREEK WATERSHED PROJECT

	Impact	Land Use	Visibility
▦	critical	urban	very high
▒	important	rural	med / high
░	minimal	ag/open	low

Figure D-1

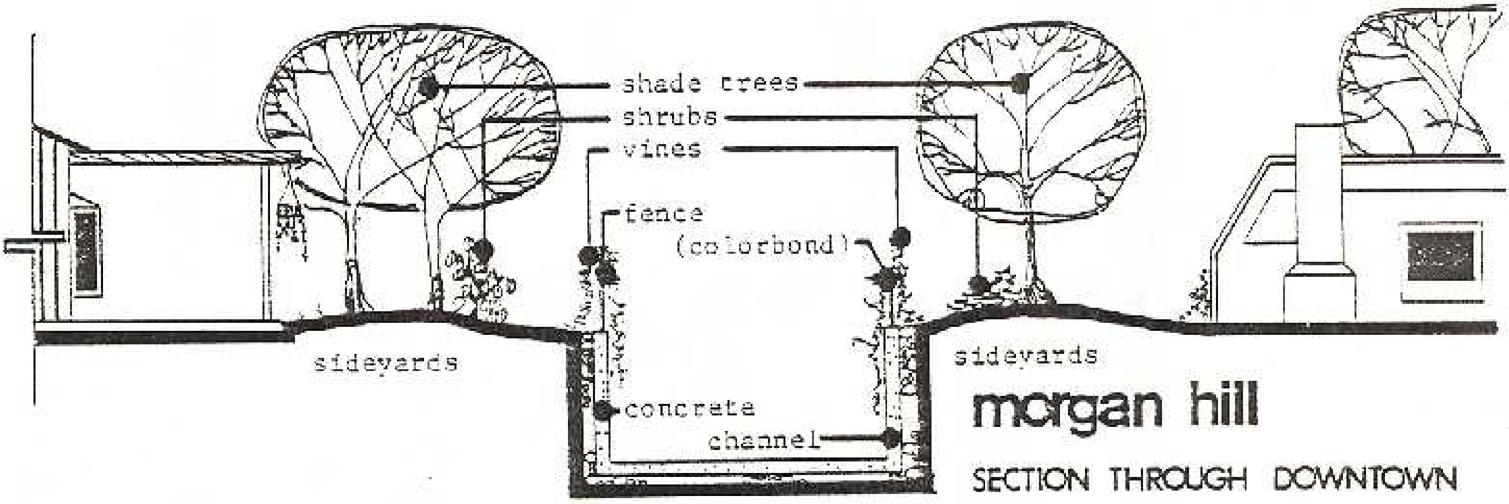
TYPICAL LANDSCAPE SECTIONS

not to scale



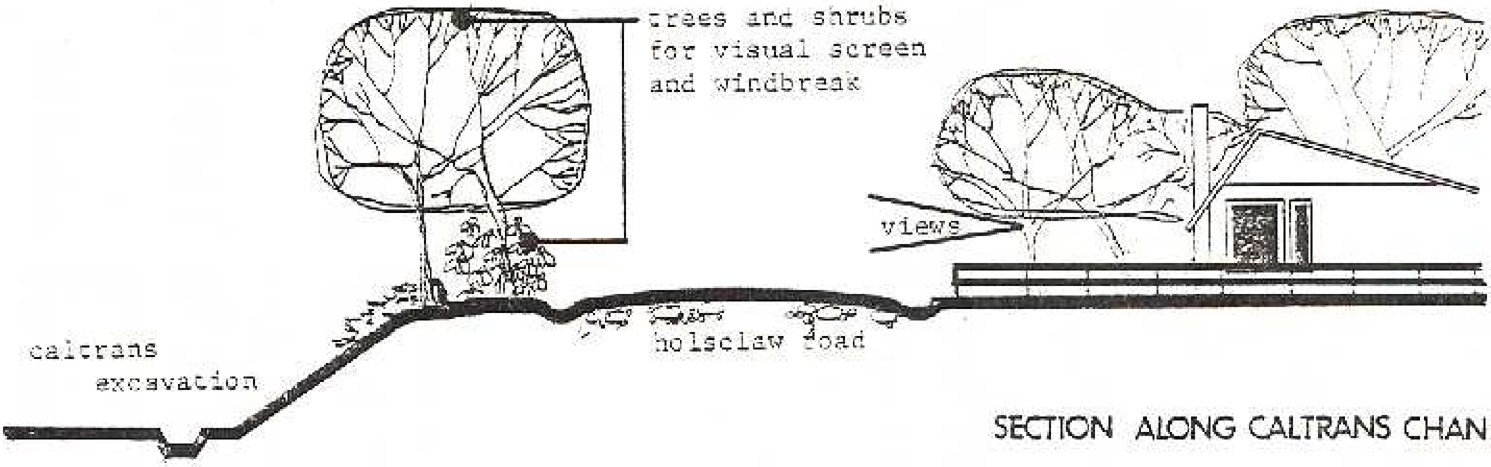
morgan hill

SECTION ALONG HALE AVENUE



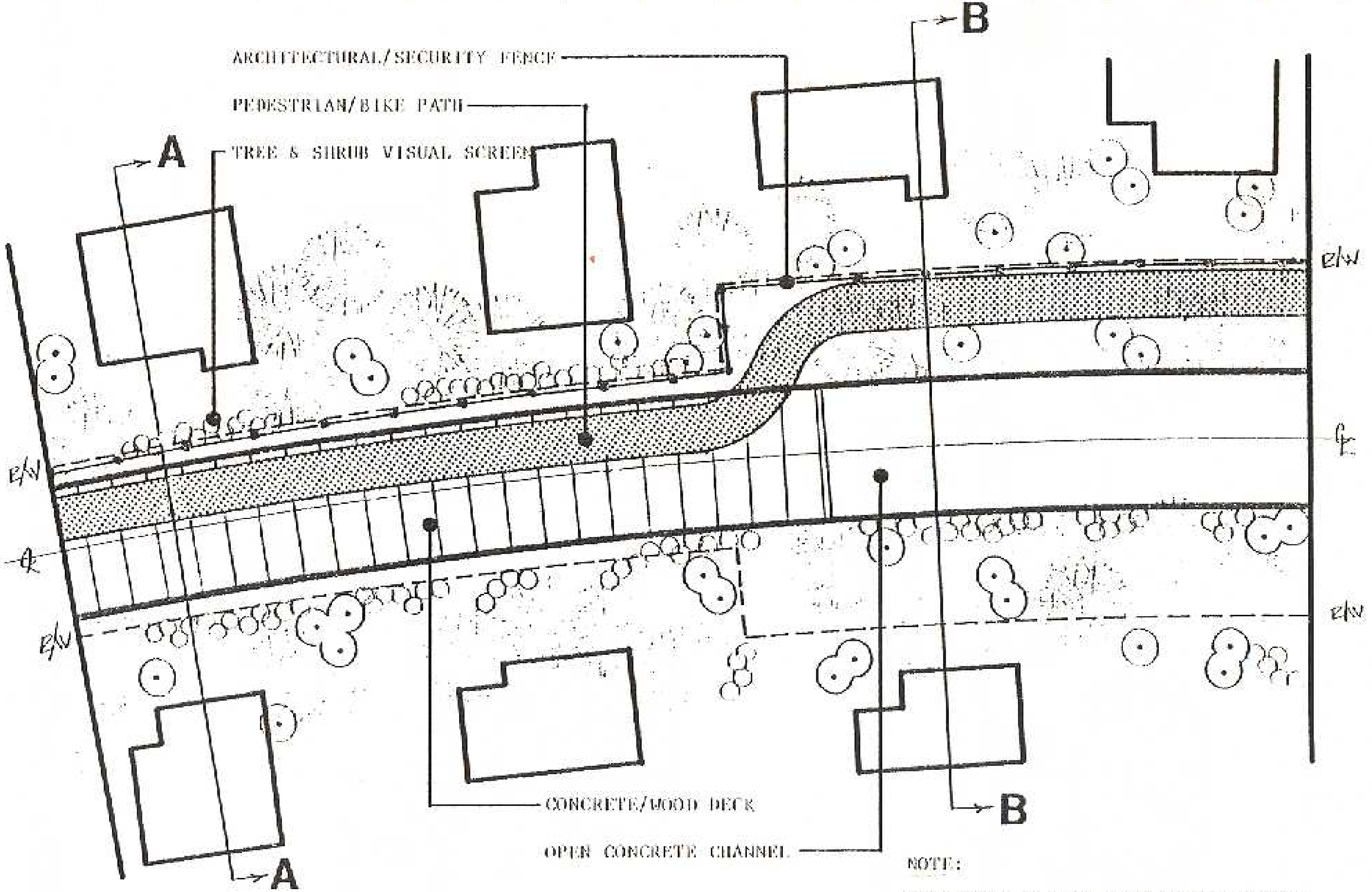
morgan hill

SECTION THROUGH DOWNTOWN



SECTION ALONG CALTRANS CHANNE

Figure I



NOTE:

*PLANTING DESIGN TO BE COORDINATED WITH BIKE PATH DESIGN.

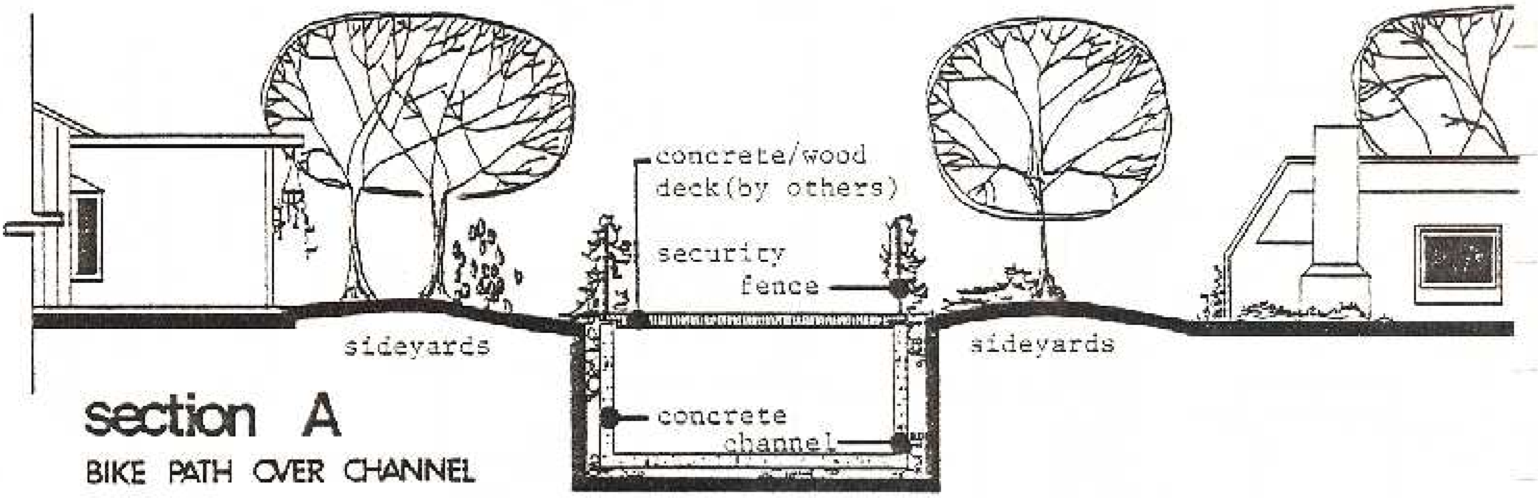
*TREES AND SHRUBS TO BE DROUGHT TOLERANT, LOW MAINTENANCE SPECIES.

*BIKE PATH BY OTHERS.

SECTIONS A & B, SEE NEXT PAGE

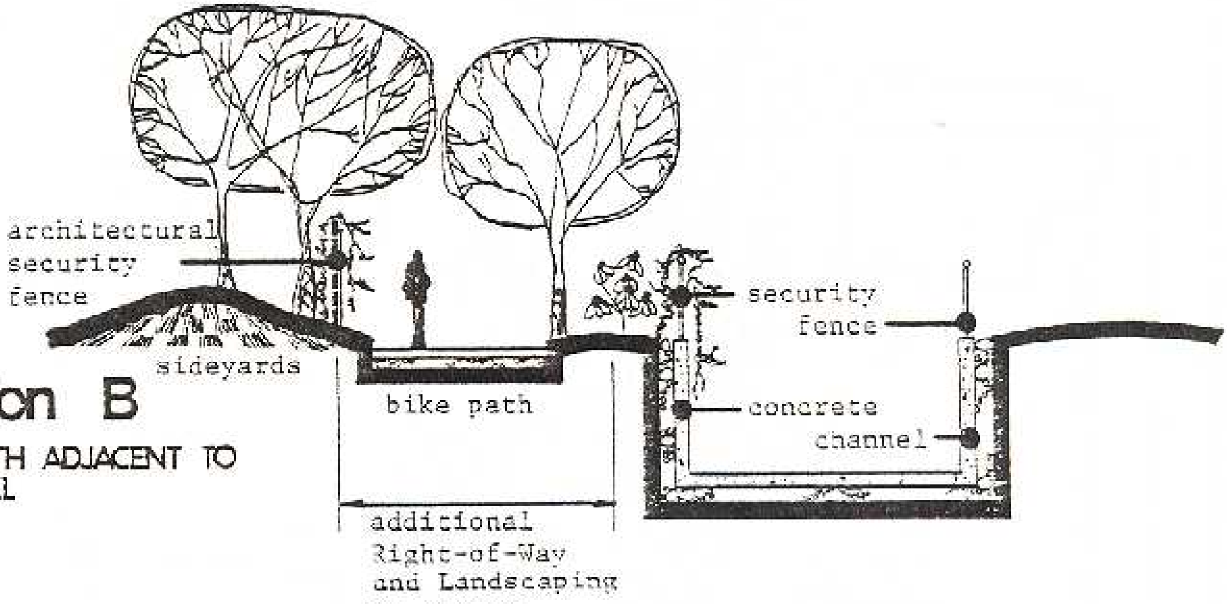
CONCEPTUAL LANDSCAPE DESIGN not to scale

Figure D-3



section A

BIKE PATH OVER CHANNEL


architectural security fence
sideyards
bike path
security fence
concrete channel
additional Right-of-Way and Landscaping by others

section B

BIKE PATH ADJACENT TO CHANNEL

NOTE :
PLANTING DESIGN TO BE COORDINATED WITH BIKE PATH DESIGN.

PROPOSED BIKEWAY SECTIONS

not to scale

Figure D-

APPENDIX E

JOINT USE POLICY

RESOLUTION NO. 74-38

DECLARING POLICY GOVERNING JOINT PUBLIC USE OF DISTRICT FACILITIES

RESOLVED by the Board of Directors of Santa Clara Valley Water District that, it being deemed in the public interest to secure diversified uses of District property to the greatest extent compatible with the primary purpose of such property, it is hereby declared to be the policy of this Board that, upon conditions outlined below and others of like nature deemed necessary by this Board, the joint use of District facilities by properly empowered public agencies is favored.

A. Such joint use shall not unduly interfere with the District's use;

B. The agency proposing such use shall make such joint use and assume full responsibility for maintenance and policing of the use and full responsibility for damage or claim of damage of every kind resulting from the use, and will further provide adequate public liability insurance coverage;

C. The installation, maintenance and removal of improvements or structures necessary or convenient to the joint use shall be at the sole cost of the agency proposing such joint use; and

D. The agency proposing such joint use will secure the Resolution Declaring Policy Governing Joint Public Use of District Facilities.

Comment and opinion of the adjacent property owners and of the affected community by public hearing and make a report of such comment as part of its proposal; provided, that the requirement of a public hearing may in any appropriate case be waived by the District.

APPENDIX F

GLOSSARY

GLOSSARY

Alluvial - A descriptive term pertaining to alluvium. Alluvium refers to loose or unconsolidated sediments deposited in flowing water.

Annual Costs - The amount of money needed to repay the initial construction cost in equal yearly installments, plus the yearly expenditure for upkeep of the project.

Aquifer - A layer or unit of rock that contains water in enough quantity that it produces water in wells.

Architectural Form Liners - Liners placed in concrete forms to create a certain design in the finished surface of hardened concrete.

Benefit/Cost Ratio (B/C Ratio) - The ratio obtained when the cost of the project is divided into its dollar benefits. PL-566 requires that the ratio be greater than 1 to 1.

Chaparral - A xerophytic formulation of dense, impenetrable thickets composed of stiff or thorny, mostly small-leaved shrubs.

Floodproofing - Work done on individual buildings to keep floodwater from entering them. The work may include installing protective walls, floodshields, and one way sewer valves. A ring dike around an individual property is also considered floodproofing.

Flood Retarding Storage - The volume of storage in a reservoir which is used to reduce the amount of stream flow during a flood. The stored floodwater is released slowly so as not to cause flooding of the area below the reservoir.

Grade Stabilization Structure - A structure in a channel bottom through which water flows from a higher elevation to a lower elevation without causing erosion.

Ground Water - Water found in the rocks and soils below the ground surface. Its upper limit is the groundwater table.

Habitat Unit (HU) - Derived by multiplying quantity in acres times quality of habitat, where quality is rated on a scale from 0.0 to 1.0 (1.0 equals best quality).

Herbaceous Vegetation - Nonwoody plants which have the texture or color of a foliage leaf and which die back to the ground each year.

Hydrophytic Vegetation - Plants that are adapted to growing in water.

Hydrologic Conditions - Represents the potential of the vegetative cover to intercept, store, and reduce the rate at which water runs off the land.

Incremental Benefit Cost Analysis - The process by which each individual segment, measure, or structure is separately evaluated in terms of comparing benefits to costs before adding the next segment, measure, or structure.

Lands of Statewide Importance - Those farmlands that are nearly prime agricultural land and economically produce high yield when managed according to modern farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. These lands may occur on slightly greater slopes or be salt affected. These lands have a dependable water supply eight of ten years.

n-Value - A coefficient of roughness used in hydraulic computations. Factors influencing the coefficient of roughness for a channel include bed material, bank material, surface irregularity, vegetation, uniformity of cross section, obstructions, and sinuosity.

Oxbow - A remnant of cutoff meandering stream channel, usually containing important fish and wildlife resources.

Percent Event - Denotes the magnitude of a flood; i.e., a flood that has a certain percent chance of occurring in any one year.

Prime Agricultural Land - Prime farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, or other land, but not urban built-up land or water). It has the soil quality, growing season, and irrigation supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods.

Probable Maximum Flood - Theoretically, the largest flood for an area that is possible.

Recharge - A process where water is added to a layer or unit of gravel.

Resource Conservation Area - This is defined in the Santa Clara County General Plan as the mountain lands, wetlands, and the best agricultural lands.

Riparian - The zone along banks and adjacent areas of water bodies, water courses, seeps, and springs whose water provide soil moisture in excess of that otherwise available locally. This moist habitat supports vegetation that otherwise would not thrive due to lack of soil moisture.

Riparian Habitat - An environment associated with riparian corridors which provide food, cover, water, and space for animals to survive.

Unique Farmland - Land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Examples of such crops are citrus, tree nuts, olives, cranberries, fruit, and vegetables.

APPENDIX G

LETTERS AND ORAL COMMENTS ON DRAFT EIS/EIR

Advisory
Council On
Historic
Preservation

1522 K Street, NW
Washington, DC 20005

Reply to:

Lake Plaza South, Suite 616
44 Union Boulevard
Lakewood, CO 80228

January 15, 1982

Mr. Francis C. H. Lum
State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

Thank you for your request received December 28, 1981, for comments on the draft environmental statement for the proposed Llagas Creek Watershed Project in Santa Clara County, California. Pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969 and the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800), we have determined that your DES appears adequate concerning our area of interest, and we have no further comments.

Sincerely,

Louis S. Wall
Chief, Western Division
of Project Review

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
300 South Ferry Street
Terminal Island, California 90731

March 2, 1982 F/SWR33:PL

Mr. Francis C. H. Lum
State Conservationist
U. S. Soil Conservation Service
2828 Chiles Road
Chico, CA 95616

Dear Mr. Lum:

The National Marine Fisheries Service (NMFS) has reviewed the draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Llagas Creek Watershed Project (December 1981) and supports the selected plan (Alternative F), with the proposed mitigation plan, discussed below.

Llagas Creek supports a run of steelhead trout. The selected plan would remove about 19 acres of riparian habitat, which provides shade, nutrients, and food for steelhead trout. However, 24.5 acres of wetlands habitat, and 16.5 acres of mixed riparian and woodland habitat would be established as mitigation along the channel. The project includes a low flow channel along one side of the channel bottom, installation of fish ladders at drop structures in Llagas Creek, and periodic stirring of spawning gravels in several locations to remove silt. The NMFS believes that these measures would adequately mitigate adverse effects of the project on steelhead trout.

If you wish to contact us further on this matter, please direct comments to Ms. Paget Leh at: National Marine Fisheries Service, 3150 Paradise Drive, Tiburon, CA 94920-1299; telephone (415) 556-0565.

Sincerely yours,

Alan W. Ford
Regional Director

cc: USFWS, J. McKevitt
CDFG, D. Lollock

United States Department of the Interior
~~WATER-AND-POWER-RESOURCES-SERVICE~~
BUREAU OF RECLAMATION
MID-PACIFIC REGIONAL OFFICE
2800 COTTAGE WAY
SACRAMENTO, CALIFORNIA 95825

IN REPLY
REFER TO: MP-150
120.1

FEB 17 1982

Mr. Francis C. H. Lum
State Conservationist
Soil Conservation Service
U.S. Dept. of Agriculture
2828 Chiles Road
Davis, California 95616

Dear Mr. Lum:

We have reviewed the draft Environmental Impact Statement/Report for Llagas Creek Watershed in Santa Clara County, California, and find it will not affect existing Bureau projects or planning activities. We have no comments to offer regarding the project.

Sincerely yours,

DAVID R. SCHUSTER
ASSISTANT REGIONAL DIRECTOR

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
211 MAIN STREET
SAN FRANCISCO, CALIFORNIA 94105

SPNED-EA

28 January 1982

To: Francis C. H. Lum
State Conservationist
USDA, Soil Conservation Service
2828 Chiles Road
Davis, California 95616

Subject: Draft Environmental Impact Statement/Report for the Llagas Creek Watershed Project

Your request for comments from this office was received on 24 December 1981 by your (letter) ~~(notice)~~ dated 22 December 1981.

( ) The proposed activity is an administrative action and therefore will not require Department of the Army authorization. However, any construction resulting from this action may require Department of the Army authorization. For additional information please contact our Regulatory Functions Branch at 4150556-5966.

(XX) The proposed construction project (will) ~~(may)~~ require Department of the Army Authorization under ~~Section 10 of the River and Harbor Act of 1899 and/or under~~ Section 404 of the Clean Water Act. A copy of our pamphlet "U.S. Army Corps of Engineers Permit Program, A Guide for Applicants," (is inclosed) ~~(has been forwarded to the applicant with a copy of this notice).~~ For additional information please contact our Regulatory Functions Branch at 415-556-5966.

(XX) The following Corps projects or studies may be impacted: As noted on page 73, material from the proposed project could be used in the Corps' Uvas - Carnadero Creek project. Mr. Robert Lillie of our Planning and Reports Branch has already coordinated with your office on this matter.

(XX) Any impacts on wetlands, threatened or endangered species, other valuable fish and wildlife resources, or on cultural resources are among the important environmental considerations for all Corps permit applications. ~~Other areas of environmental concern specific to this project are:~~

Thank you for including us in your review process.

Roger Golden
for BARNEY OPTON
Acting Chief, Management & Services Section
Environmental Branch
(415-556-0325)

CF:
Proj Files EIR/884 Review
SPNED Rdg
SPNED-P
SPNED-E Rdg
SPNED-EA (Golden)
SPNCO-R S (Wakeman)
SPNCO-RF
~~SPPPD-R~~
~~APPLICANT (~~
SPNED-H

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

FEB 18 1982

Francis C.H. Lum, State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

The Environmental Protection Agency (EPA) has received and reviewed the revised Draft Environmental Impact Statement/ Environmental Impact Report (DEIS/EIR) entitled Llagas Creek Watershed.

The EPA's comments on the revised DEIS have been classified as Category LO-2. Definitions of the categories are provided by the enclosure. The classification and the date of the EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal Actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

The EPA appreciates the opportunity to comment on this DEIS and requests five copies of the Final Environmental Impact Statement when available.

If you have any questions regarding our comments, please contact Loretta Kahn Barsamian, EIS Review Coordinator, at (415) 974-8137 or FTS 454-8137.

Sincerely yours,

John Wise

John Wise, Acting Director
Office of Policy and Resources Management

Enclosures (2)

404 Permit Comments

1. The second paragraph on page 61 of the revised DEIS/EIR should clarify the issue of ponding in certain undeveloped areas within the scope of the proposed project. The Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) should state whether the areas of concern are wetlands and whether the ponding of stormwater is significant in terms of flood control, groundwater recharge, or wildlife use. The FEIS/EIR should also indicate if these areas are subject to public review and permitting based on the regulatory program of the Corps of Engineers or other federal or state agencies.

2. The selected alternative appears to satisfy the requirements of federal guidelines developed pursuant to Section 404 of the Clean Water Act (40 CFR 230). However, a definitive evaluation cannot be made until dredge spoil disposal sites are specified in an application for federal authorization under Section 404. EPA will provide its recommendation to the Corps of Engineers after the Corps has received a Section 404 permit application.

FEDERAL ENERGY REGULATORY COMMISSION
333 MARKET STREET, 6th FLOOR
SAN FRANCISCO, CA. 94105-2195

January 19, 1982

Mr. Francis C. H. Lum
State Conservationist
USDA Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

This is in response to your letter of December 22, 1981, requesting our review and comments on the Draft Environmental Impact Statement/Report For Llagas Creek Watershed, Santa Clara County, California, dated December 1981.

As stated in your report, the purpose of the proposed project is to reduce flooding in agricultural and urban areas in southern Santa Clara County, California. Approximately 16.6 miles of channels will be modified for increased capacity.

We have reviewed your draft report to determine the effect on matters affecting the Federal Energy Regulatory Commission's responsibilities. Such responsibilities relate to the licensing of non-federal hydroelectric projects and associated transmission lines; certification for construction and operation of natural gas pipeline facilities, defined to include both interstate pipeline and terminal facilities; and the permission and approval required for the abandonment of natural gas pipeline facilities.

Our review indicates there would not be any significant impacts in those areas of concern nor serious conflicts with this agency's responsibilities if this plan were adopted.

Sincerely,

W. F. Kopfler, II
Acting Regional Engineer

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS: G-WS/11
U.S. COAST GUARD
WASHINGTON, DC 20593
PHONE: 202-426-2262

FEB 25 1982

Mr. Francis C.H. Lum
State Conservationist
U.S. Dept of Agriculture
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

This is in response to the correspondence received regarding the Draft Environmental Impact Statement related to the Llagas Creek Watershed, Santa Clara County, California.

The concerned operating administrations and staff of the Department of Transportation have reviewed the material submitted. The Federal Highway Administration had the following comments to offer.

> "1. Pages 25 and 66: The Gilman Road Bridge (No. 37C-537), which will be replaced by the proposed project (Alternative F), has recently been determined eligible for the National Register of Historic Places.
>
> 2. The Gilman Road Bridge is also eligible for Highway Bridge Replacement and Rehabilitation funding. If the bridge will be replaced under this program, project clearance under Section 4(f) will need to be obtained from the Federal Highway Administration.
>
> 3. We have reviewed the list of bridge/culvert replacements (Table 11, page 52) for funding eligibility under the HBRR program and find that no other bridges can be expected to qualify in the near future.
>
> 4. In addition, we oppose a reduction in roadway width at bridge approaches, as is proposed for Bloomfield Avenue (Reach 1, Station 50+40), for reasons of traffic safety. See Table 11, page 52. The environmental statement needs to indicate whether or not the proposed roadway width at each bridge/culvert approach meets AASHTO standards. These standards are based on the projected average daily traffic for a minimum 20 year design life. Substandard roadway approach and bridge widths are not acceptable to FHWA.
>
> 5. The EIS should state that the bridge/culvert design will be based upon detailed engineering and environmental studies and will comply with Executive Order 11988, Floodplain Management, and executive Order 11990, Protection of Wetlands."

We would appreciate receiving two copies of the Final EIS when it becomes available.

Sincerely,

W. E. Caldwell
Rear Admiral, U.S. Coast Guard
Chief, Office of Marine
Environment and Systems

SPEED LIMIT 55
It's a law we can live with.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Area Manager
2800 Cottage Way, Rm. E-2740
Sacramento, California 95825

JAN 21 1982

In reply refer to: ES-S

Mr. Francis C.H. Lum
State Conservationist
2828 Chiles Road
Davis, California 95616

Subject: Llagas Creek Watershed - Draft Environmental Impact Statement

Dear Mr. Lum:

Thank you for the opportunity to review the subject statement. The continuous coordination between your staff and the Sacramento Office of Ecological Service has resolved all issues of concern to the Fish and Wildlife Service.

I believe the selected alternative provides an excellent opportunity to improve conditions for fish and wildlife resources in the project area.

As time and funds permit, the Service would be interested in cooperating with the Gavilan Water Conservation District and the California Department of Fish and Game in monitoring the effects of the project of fish and wildlife resources. Please contact Mr. Rick Breitenbach at the Sacramento Office of Ecological Services, 2800 Cottage Way, Room E-2727, Sacramento, California 95825 or telephone (916) 484-4731.

Sincerely yours,

Area Manager

2 WS

United States
Department of
Agriculture

Forest
Service

R5

630 Sansome Street
San Francisco, CA 94111

Reply to: 1950

Date: January 4, 1982

Francis C. H. Lum
State Conservationist
USDA, Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

Thank you for the opportunity to review the draft environmental impact statement for the Llagas Creek Watershed Project; however, National Forest System lands and resources are not involved, and we therefore have no comment. It will not be necessary to send us further environmental documents for this project.

Sincerely,

Jon D. Kennedy

JON D. KENNEDY, Director
Land Management Planning

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
630 Sansome Street
San Francisco, California 94111

3510 -
February 5, 1982

Francis C. H. Lum
State Conservationist
USDA-Soil Conservation Service
2828 Chiles Road
Davis, California 95616

Dear Francis:

The Llagas Creek Watershed DEIS/Report is a well written comprehensive document. The figures provided in the appendix were especially useful in understanding the scope and nature of the project.

I have the following specific comments for your consideration in the final EIS/Report.

1. The discussion of the effects of flooding on page 11 under Discussion of Agricultural Damage could be clarified by providing a little additional information. For example: Listing some of the weed species, and explaining the relationship of the water borne spores of the root rot Phytophthora that attacks truck crops.

2. On pages 56 and 57, the relationship between the rodent population and type of cover must be understood by the reader before the statements are clear. Some additional explanation about plant cover and rodent predators would be helpful.

3. Suggest commenting on the relationship of water quality and project design relative to the existing sewage pond shown in Reach 2 and Figure C-1.

Thank you for the opportunity to review the DEIS/Report for the Llagas Creek Watershed.

Robert L. Erwin
ROBERT L. ERWIN
FAC Member

State of California

The Resources Agency of California

Memorandum

To : State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Date: February 22, 1982

408 265.2600

From : **California Regional Water Quality Control Board**
Central Coast Region—1122 Laurel Lane
San Luis Obispo, California 93401

Subject: LLAGAS CREEK WATERSHED EIS/EIR; SCH 79073008

The subject EIS/EIR has been reviewed by this Board's staff. Specific comments are as follows:

1. Page 53, Mitigation 9 — It is assumed infiltration ponds mentioned here are the City of Gilroy's industrial wastewater disposal ponds. If that is the case, the report should mention the area of ponds which will be displaced by the project and location(s) where replacement ponds will be located. The City will need to contact this agency at least four months prior to relocating the ponds.

2. Pages 51-53, Mitigation — As additional mitigation measures we recommend construction occur in the dry season under low or no flow conditions. Equipment and fill soils should be excluded from all flowing water.

In general, we favor the proposed project. The project should result in a reduced amount of erosion and a better quality water in Llagas Creek and Pajaro River. It will also reduce flooding at the City of Gilroy's wastewater disposal ponds when levee construction at Reach 2 is completed. We strongly encourage Reach 2 of this project be completed to reduce damage to the ponds and to avoid possible contamination of surface waters.

Thank you for the opportunity to comment.

Kenneth Jones

KENNETH R. JONES
Executive Officer

JFC:bf

cc: Francis C. H. Lum, State Conservationist

ATE OF CALIFORNIA EDMUND G. BROWN JR., Governor

DEPARTMENT OF FOOD AND AGRICULTURE

1220 N Street
Sacramento
95814

February 10, 1982

Mr. Francis C. H. Lum
United States Department of Agriculture
Soil Conservation Service
2828 Chiles Road
Davis, California 95616

Dear Mr. Lum

The California Department of Food and Agriculture is responding to the draft Environmental Impact Statement/Report for Llagas Creek Watershed in Santa Clara County, in which the purpose of the project is to reduce flood damage to agricultural and urban areas.

The Llagas Creek Watershed is a primarily rural agricultural area in the Santa Clara Valley. We note that 93 percent of the watershed is under some type of agricultural use. Notwithstanding present urbanization, agricultural growing, marketing and processing accounts for 85 percent of the annual income for the area.

The California Department of Food and Agriculture (CDFA) does not oppose the project, in particular Alternative F, which has benefits that exceed cost. One hundred sixty-six miles of channels will be modified for increased capacity which the project installation will require 80 acres of agricultural land. The project installation will reduce the area flooded from a 10 percent event by 500 acres and the area flooded from a 1 percent event by 1,280 acres. Damage reduction to vegetable crops, hay, pasture, and orchards will be accomplished; other savings would occur from a reduction in releveling, land preparation, replanting, use of herbicides, and the replacement of irrigation pipes and sprinklers. Installation of the recommended plan would reduce floodwater and sedement damage annually from $917,000 to $83,000.

We note that the necessary work to provide protection to Gilroy and Morgan Hill will, incidently, reduce flooding downstream and yet will not significantly induce growth beyond county and city plans. CDFA agrees that sufficient developable land exists outside of the floodplain to satisfy the projected growth. Of the 1,280 acres of prime farm land protected, 410 acres are projected for urban development by the year 2020. According to the County General Plan, significant agricultural production will continue to occur.

In general, CDFA supports the Llagas Creek Watershed and, in particular, Alternative F. The proposed project is consistent with future long-term uses of land, water, and other natural resources of the area.

Sincerely

Harry J Krade

Harry J. Krade
Assistant Director
Special Assignments
(916) 445-0682

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY EDMUND G. BROWN JR., Governor

EPARTMENT OF HEALTH SERVICES
714/744 P STREET
SACRAMENTO, CA 95814
916) 445-0498

January 12, 1982

Francis C.H. Lum
State Conservationist
USDA, Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

ATTN: Wildon Fontenot

Dear Mr. Lum:

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR LLAGES CREEK, SANTA CLARA COUNTY

Review of the subject document has been made with respect to public health concerns. Proposed mitigation in Reach 2 calls for the creation of 24.5 acres of Type III wetlands (USFWS circular 39-shallow, flooded throughout growing season). This type of wetland will almost certainly become a substantial mosquito source if the characteristic shallow water and dense vegetation are maintained. The project plan has neither provision for water management nor a description of structural features to manage the water depth behind the grade stabilization structures and fish ladders.

My recommendation is to design the grade stabilization structures and fish ladders so that no artificial water impoundments can be created upstream of the structures. I would expect that initially there will be some water impoundment behind the structures but ultimately deposition of sediments will bring the channel elevation up to that of the control structures. The potential for mosquito production should be at a minimum after sediment disposition has reached equilibrium provided the low flow channel is properly maintained by the responsible agency.

I commend your concept of using low flow channels. Low flow channels are a widely used and recommended feature to confine small flows and prevent mosquito problems in relatively flat wide bottom natural and man-made channels. In addition to the benefit of eliminating shallow ponded water from the bottom of wide channels, the low flow channel provides a source of open water for wild life, is conducive to providing soil moisture for plant survival and provides a habitat for mosquito larva predators.

The importance of maintaining the low flow channel should not be underestimated. A stagnant shallow flooded area would provide excellent habitat for both pest and vector mosquitoes. The flight range of all the expected mosquito species is greater than the distance to the nearby city of Gilroy. It is also not uncommon to have agricultural workers come under severe attack by mosquitoes originating at nearby sources.

ST. CONSV.
ASST. (O)
PIO
2 WS
JAN 14 1982

1 [illegible]
[illegible]
FILE WS

The principal vector of encephalitis, *Culex tarsalis*, is a major concern and is present in the Santa Clara Valley.

If you have any questions please call.

Sincerely,

VECTOR
BIOLOGY & CONTROL
BRANCH

Reuben Junkert

Reuben Junkert, P.E.
Sr. Waste Management Engineer

RJ:mq
cc: Keith Kraft
Santa Clara County Health Dept.

Resources Building
1416 Ninth Street
95814

(916) 445-5656

Department of Conservation
Department of Fish and Game
Department of Forestry
Department of Boating and Waterways
Department of Parks and Recreation
Department of Water Resources

EDMUND G. BROWN JR.
GOVERNOR OF
CALIFORNIA

THE RESOURCES AGENCY OF CALIFORNIA
SACRAMENTO, CALIFORNIA

Air Resources Board
California Coastal Commission
California Conservation Corps
Colorado River Board
Energy Resources Conservation and Development Commission
Regional Water Quality Control Boards
San Francisco Bay Conservation and Development Commission
Solid Waste Management Board
State Coastal Conservancy
State Lands Commission
State Reclamation Board
State Water Resources Control Board

Mr. Francis C.H. Lum
State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

February 18, 1982

Dear Mr. Lum:

The State has reviewed the draft environmental impact statement, Llagas Creek Watershed, submitted through the Office of Planning and Research in accordance with OMB Circular A-95 and the National Environmental Policy Act of 1969. This review was coordinated with the State Lands Commission, Water Resources Control Board, and Departments of Boating and Waterways, Conservation, Fish and Game, Parks and Recreation, Water Resources, and Transportation.

The Department of Transportation (Caltrans) has the following comments:

1. Under an agreement with the Santa Clara Valley Water District, Caltrans has excavated the Llagas Creek channels. Despite statements in the draft EIS, Caltrans does not acknowledge responsibility for any damages caused by induced flooding or otherwise resulting from such work.

2. The draft EIS is adequate for Caltrans's use in its responsible agency role in replacing the bridge over Llagas Creek on State Route 152.

Questions concerning these comments should be directed to Paul Hughes, Acting District CEQA Coordinator, Caltrans District 04, Environmental Planning Branch, P.O. Box 3366, Rincon Annex, San Francisco 94119.

Sincerely,

Charles K Fellows
for JAMES W. BURNS
Assistant Secretary for Resources

cc: Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

(SCH 79073008)

ABAG

Association of Bay Area Governments

Hotel Claremont · Berkeley, California 94705 · (415) 841-9730

March 4, 1982

Mr. Francis C. H. Lum
State Conservationist
USDA, Soil Conservation Service
2828 Chiles Road
Davis, California 95616

Re: DEIR/DEIS for the Llagas Creek Watershed Project

Dear Mr. Lum:

Thank you for the opportunity to comment on the Draft Environmental Impact Report and Statement for the Llagas Creek Watershed Project. Staff has reviewed this document and is forwarding the following comments. ABAG's Executive Board has not taken a position on this document or on the proposed project.

ABAG staff is in favor of the preferred alternative as providing the best flood protection for the money spent. It satisfies the policy (in the "Safety" section of the San Francisco Bay Area Regional Plan) to consider the impacts downstream of drainage alterations and watercourse changes. In addition, it is consistent with the need for publicly-funded stream channel modifications in existing urban areas. The project does not propose spending large amounts of money to protect largely rural areas with low damage potential. Such priorities are essential in this era of limited public funding.

If we may be of further assistance, please do not hesitate to call.

Sincerely,

Michael A. Visconti
Manager
Plan and Project Review

ambag
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
MAIL ADDRESS: P.O. BOX 190, MONTEREY, CALIFORNIA 93942 • TELEPHONE (408) 624-2117
OFFICE LOCATION: 23845 HOLMAN HIGHWAY, SUITE 227

February 16, 1982

Francis Lum
State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, California 95616

Dear Mr. Lum:

RE: Interagency review draft Environmental Impact Statement/Review for Llagas Creek Watershed, Santa Clara County

I appreciate the opportunity to comment on the Draft EIS/EIR for the Llagas Creek Watershed flood project. AMBAG, in cooperation with Santa Cruz County, Monterey County and the Department of Fish & Game, is in the process of developing a river habitat management plan for the Pajaro River and major tributaries. The study is being conducted utilizing federal "208" grant monies and we are interested in any project that may affect the Pajaro River or its tributaries, including those portions of the watershed within Santa Clara County. Our comments are based on a conference with one of our consultants, fisheries biologist Dr. Jerry Smith.

Impacts

The EIS/EIR basically describes the impacts of the proposed project, but there is also a need to identify all the effects of that part of the project which have already been completed. The excavation by CALTRANS in 1972 to widen the channel may have impacts on migration of fish in Llagas Creek, and along with the two drought years, should be considered a factor in the temporary loss of fish. Also, it should be noted that even with installation of low-flow channels and fishways as mitigating measures, loss of fish may still occur from poaching at fishways. To help mitigate this impact, Dr. Jerry Smith suggests that spawning conditions be improved, for those fish that do make it through the channel by stirring gravels or gravel placement, and that this be included as a project cost. Also with respect to project costs, replanting riparian vegetation on cut slopes is desirable, but restoration of the steelhead population should be considered a project cost-share expense as well. Stocking the creek with appropriate fish to restore the steelhead run should be paid for as part of the project rather than as now planned by DFG and the Gavilan Water District.

Mitigating Measures

The mitigating measures outlined in the draft statement regarding the steelhead and its habitat are good and should be a high priority. Installation of the low-flow channels and fishways is important but these must be maintained; failure of any of the fishways could result in the elimination of an entire year class, and thus jeopardize the run. The cooperative agreement between the Gavilan Water Conservation District and the Department of Fish and Game should include specific provisions for the fishways and channels to be checked each fall and after or during storms which have the potential to result in clogged or damaged fishways or the low-flow channels (and indicate responsibility). This is very critical in determining the effectiveness of the mitigating measures (fishway and low-flow channel installations).

Stocking Llagas Creek to re-establish the steelhead trout run should be done with a southern strain (such as from Carmel River or Uvas Creek). Using southern strains that are adapted to early downstream migration will help to ensure the success of restocking efforts.

In conclusion, the project and proposed mitigating measures will help to improve the steelhead fishery resource but it is critical that the low-flow channels and fishways be regularly checked and maintained to continue providing optimal habitat for the steelhead in the future.

Sincerely,

Deina Stanley for

Julie Brandlin
Program Manager
Water Quality

cc: Dr. Jerry Smith

PARKS & RECREATION DEPARTMENT

Telephone (408) 842-0221

City of Gilroy

7351 Rosanna Street, P.O. Box 66
GILROY, CALIFORNIA
95020

WILLIAM E. AYER
DIRECTOR

February 3, 1982

Mr. Francis C.H. Lum
State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

Please accept our comments regarding Llagas Creek Watershed Environmental Impact Report. My concern, primarily involves the Biological Mitigation Plan and its long-term survival and compatibility within the urban confines of Gilroy.

The west branch of the Llagas, running through the community of Gilroy, has been identified in our general plan as open space and as a possible part of a future hiking and bicycle trail system. This in no way represents a commitment on the city's part to develop or maintain such recreational use. This represents only a concern, at this time, that the project not progress in such a way that it would eliminate this possible future use.

I recommend care be taken in the biological mitigation planning along the west branch. Careful planning for conflicts with the urban environment can mean success or failure for long-term survival of this mitigation planting investment.

Future recreation use of trails along the west branch will probably be the single most important reason for continued care and maintenance of plantings. Public demand will probably be necessary to justify necessary maintenance cost when vegetation is vandalized, fire damaged or dies. If not maintained, we fear mature vegetation will be viewed as a hazard and security problem, when adjacent to housing and other urban development. This would result in its removal.

Solid vegetated planting in the Biological Mitigation Plan without easy vehicle maintenance access will preclude its future recreation use. This could ultimately lead to the abandonment and distruction of such planting efforts. Urban conflicts should be viewed as a serious future threat to such mitigation planting and should be planned for. A solid vegetative planting area fronting urban development without maintenance access will lack recreation use value to the community. It is this type of situation, we believe, which would lead to the future loss of the planned biological mitigation efforts.

We hope these comments will be of value to you in planning this project. Please contact me if you have any further questions.

Sincerely,

William E. Ayer

William E. Ayer
Director

DEPARTMENT OF PUBLIC WORKS

Telephone (408) 842-9321

City of Gilroy

7351 Rosanna Street, P. O. Box 66
GILROY, CALIFORNIA
95020

DAVID W. HANSEN
DIRECTOR OF PUBLIC WORKS
CITY ENGINEER

February 17, 1982

Mr. Wil Fontenot
U.S. Department of Agriculture
Soils Conservation Service
Davis CA 95616

RE: Comments on the draft EIS/R for the Llagas Creek Watershed. (Project 566)

Dear Wil,

As you know, the City of Gilroy strongly supports the implementation of the proposed project as quickly as possible. Our recent flood damage experienced in the beginning of January '82, demonstrated our vulnerability to flood damage without the protection of the 566 project.

The fact that we suffered substantially more than any other area in the project should support the high cost benefit ratio granted Gilroy for the project, and our request that work in reaches 10, 11a, 12, and 13 be given a high priority for the first years of construction.

Upon review of the draft EIS/R, my attention was caught by Table 11 on page 52, which lists the various road crossings in the project. Please acknowledge the following comments in the final environmental document:

(1) Reach 9, Station 147+00, ownership: City, not County (Murray Avenue)

This road is in the process of being widened by the developers of the properties to the immediate north of the channel. Additional right of way on the west was granted to the City in October of 1980. This area was annexed to the City in April of 1980, the City's general plan has showed the right of way width of Murray avenue in this area to be 75 feet for many years. Our recent developments in this area are consistent with this plan. The roadway width, curb to curb, should be 53 feet in the area of your bridge.

(2) Reach 10, Stations 177+00 & 178+00, ownership: City
(Church Street and Carlyle Avenue)

These two bridges seem to have been entirely overlooked in the preparation of your report. Both are existing dedicated roadways and although Church street is still under construction, it should be completed before the 566 project receives its final approval. Following, is a brief history of these streets:

Carlyle Avenue: This narrow road has existed for many, many years. It presently serves several homes in the area of the channel, but with the improvement of the northerly extension of Church street, can be phased out. Since it is an existing roadway, your report should have called for a 28 foot wide bridge.

Church Street: The present improvement of Church street is consistent with City policies and plan lines which have been on record long before the 566 project. Unless flooding problems exist on, or as a result of the site, we cannot hold up reasonable growth and progress in this area waiting for the project to build the cannel overwhich the developer might build a bridge. The Santa Clara Valley Water Conservation District has cleared this site for development and as a mitigation element, the City has provided for the construction of a portion of your channel by the developer (rather than a bridge).

For a number of signigicant reasons, we believe that a 64 foot wide bridge should be provided for Church street at the expense of the project. Some of these reasons are as follows:

1. That portion of the channel which crossed Church street is a diversion rather than a natural water course. As such, it would not have been needed had the project followed the natural drainage path of this water.
2. Historically, the planned northerly extension of Church street predates the planned diversion of the West Branch of the Llagas Creek.
    a) The project plan lines were adopted on August 4, 1969.
    b) This part of Church street was shown on the plan lines for Church street from Welburn to a short distance north of Liman avenue, as being just beyond the limits of that adoption. It was, however, shown as a future extension essentially along the alignment of Carlyle. Those plan lines were adopted on December 3, 1962. The right of was was projected to be 75 feet wide.

c) The now established alignment for Church street was first shown clearly (86 feet wide), on the right of way maps used for the installation of the Morgan Hill/Gilroy sewer interceptor in 1967. These maps were prepared in August of 1967.

d) This alignment, as well as that of the diversion channel, have since been shown on all recorded maps. Recorded on this site since

   1. Parcel map recorded Nov. 8, 1974.
   2. Tract map recorded Sept. 2, 1981 (finally 75 feet wide)

e) The subdivider will have completed the roadway this summer.

With the construction of an adequate bridge for Church street (53 feet wide between curbs), the Carlyle bridge will be unnecessary.

Your immediate consideration on this matter will be greatly appreciated. I am enclosing, for your reference, copies of the above maps.

Very truly yours,

David W. Hansen
Director of Public Works
City Engineer

DWH:jj
Enclosures

cc: Bruce Eisenmart, Gilroy Goils Conservation Service
Rich Pardini, Santa Clara Valley Water District
Loma Prieta, Resource Conservation District
Jack Sturla, Gavilan Water District
Terry Seina, Mackay & Somps Engineers
Ron Cheek, Barnett Range Corp.
Fred Wood, City Administrator

City of
Morgan Hill

17555 Peak Avenue, Morgan Hill, CA 95037

*DEPARTMENT OF
COMMUNITY DEVELOPMENT*

Planning (408) 779-7248
Building Inspection (408) 779-7241

February 11, 1982

Mr. Francis C.H. Lum
State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

RE: Review of Draft EIR/EIS Llagas Creek Watershed

Dear Mr. Lum:

Thank you for the opportunity to comment on the subject EIR/EIS. We have reviewed the document and are satisfied it addresses our major concerns. However, with regards to the mitigation measures for the replacement of Riparian Habitats, we would like to make the following comments:

1. The Riparian Habitats located along the West Little Llagas Creek in Downtown Morgan Hill is an integral part of the City's specific design plan for the area. As proper mitigation, the plan should, where possible, preserve significant vegetation along the creek alignment with particular emphasis given toward the preservation of large specimen trees.

2. Vegetation which must be removed due to channel work should be replaced with native Riparian Plant Species.

Thank you again for the opportunity to comment on this matter.

Very truly yours,

David E. Miller

David E. Miller
Community Development Director

DEM/it

CALIFORNIA CATTLEMEN'S ASSOCIATION

GEORGE SCOVEL
PRESIDENT
GILROY

CLAY DAULTON, III
1ST VICE PRESIDENT
MADERA

WM. B. STAIGER
EXECUTIVE VICE PRESIDENT

JAKE L. SCHNEIDER
TREASURER
SLOUGHHOUSE

TELEPHONE 444-0845 (AREA CODE 916)
1005 12TH STREET, SUITE A
SACRAMENTO, CALIFORNIA
ZIP CODE 95814

VICE PRESIDENTS
RICHARD HAMEL
LIKELY

JOHN LACEY
PASO ROBLES

STUART BROWN
GUSTINE

NATIONAL CATTLEMEN'S
ASSOCIATION

January 27, 1982

Francis C. H. Lum
State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

I mailed the summary of the Llagas Creek Watershed EIS/R to the Santa Clara County Cattlemens' Association and requested their comments.

They felt the proposed project would not have any affect upon the livestock industry, but that it could have prevented some flood damage to urban areas had the project been completed prior to the early January storms.

Sincerely,

Leo L. Johnson
Assistant Manager

ldc

CITIZENS TO PRESERVE LLAGAS/CHESBRO
P.O. BOX 1004, MORGAN HILL, CA. 95037

15 February 1982

Mr. Francis C. H. Lum
State Conservationist
USDA, Soil Conservation Service
2828 Chiles Road
Davis, Ca. 95616

Dear Sir:

Re Llagas Creek Watershed EIS/EIR

Citizens to Preserve Llagas/Chesbro have previously indicated our support of the current Llagas Creek Watershed Project. The comments below are provided for the purpose of corrections, and clarity.

On page 11 under Urban Damage, the phrase "especially those with slab-floor construction" seems to be out of place. Certainly the type of floor does not affect flooding

On page 12 in the paragraph beginning "In commercial areas" the word "would" should be inserted directly following "278".

CITIZENS TO PRESERVE LLAGAS/CHESBRO
P.O. BOX 1004, MORGAN HILL, CA.95037

15 February 1982
(con't)

On page 47 under Reach 2, replace "excavationed".

On page 47 under Reach 4, have we saved the eucalyptus? They are still not mentioned.

On page 53 at 11, "debris" is misspelled.

Appendix E. CPL/C sincerely hopes that the Santa Clara Valley Water District will pass the more restrictive, proposed policy regarding Joint Use of the Llagas Creek land areas.

Robert E Blaine

FEDERATION of

FLY FISHERMEN

RESIDENT:
R. CHARLES F. NELSON JR.
os Angeles, CA
EXEC TVE VICE PRESIDENTS.
R. L GLANDER
ndia ous, IN
ARTIN SELDON
unnyvale, CA
ECR ARY:
YNI MONSON
enve O
REASURER:
RROL CHAMPION
une AK
ICE ESIDENTS:
OHN AND CALLAGHAN
alem OR
OBERT CUNNINGHAM
artlesville, OK
R. L GODFREY
ogo , UT
AR ER GRANT
cars , NY
STANELY LLOYD
an Nuys, CA
R. VINCENT RINGROSE
ew an, CT
OU SSI
anol NY
ENIOR ADVISORS.
ENE ANDEREGG
idgewood, NJ
ACI NDERSON
shla OR
EW . BELL
eattle, WA
HIL CHASE
ort Jervis, NJ
AU OLLIER
ulve ity, CA
AM ERISER
l Toro, CA
AY FISHER
avis, CA
AC EMINGWAY
un ey, ID
HAI KIME
range CA
BERNARD (LEFTY) KREH
ockeysville, MD
UD LLY
West llowstone, MT
PRE OTT A. TULMAN
Hom le, PA
CHARLES WEIDMAN
ndianapolis, IN
DAVE WHITLOCK
Hul , AK
EE LFF
Livi n Manor, NY
GORDY YOUNG
Seattle, WA
DIRECTORS:
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Panorama City, CA
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Klamath Falls, OR
EARL GOLDBERGER
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GE E HAAK
Mid own, NY
RO AILE
Dis ar, CA
KEN HEIMBECKER
Hillsman, CA
BO EWITT
Wa k, RI
LE EWETT
SL L, MN
DICK KENNON
Pinole, CA
LANCE KING
Al na, CA
GR LILLY
We ellowstone, MT
DICK OBLINGER
North Hollywood, CA
ALLAN PEDERSEN
Sal , CA
O PIERCE
Ho to, CA
DF RIC PETTINE
Fort Collins, CO
NATHANIEL P. REED
Hobe Sound, FL
FR K RICHARDSON
Li a, GA
Al N ROHRER
Santa Ana, CA
REX SCHOFIELD
North Vancouver, BC
FR SHIOSAKI
Sp ne, WA
W HE STRONG
Bu ank, CA
WALT TWAROWSKI
Arlington Hts, IL
L WAHL
D n, OR
G WATKINS
S e, WA
MIKE WOLVERTON
Murtaugh, ID

2706 Loyola Drive
Davis, CA 95616
February 16, 1982

Francis C. H. Lum
State Conservationist
J. S. Department of Agriculture
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Dear Mr. Lum:

This is my personal response to your December 22, 1981 invitation to submit comments in writing on the Environmental Impact Statement/Report for the Llagas Creek Watershed in Santa Clara County. The purpose of this project is to reduce flood damages to agricultural and urban areas caused by the approximately 10.9 miles of channel excavated by CALTRANS (formerly State Division of Highways) in 1971/72 to provide fill for the South Valley Freeway.

It is disconcerting to contemplate the cost of some ten years of delay both as to the extent of environmental damage and public inconvenience suffered as well as the very considerably inflated costs of mitigation at the present time. This project can well serve as a good object lesson on the importance of having proper regulations in place at the time such public works are contemplated to thus avoid such adverse consequences.

However, the delay and adverse impacts of whatever nature in this unfortunate situation should now be accepted as "water under the bridge". The important consideration now is that the damage is going to be repaired in the reasonably near future.

I am greatly pleased to read of the provisions for a low channel for steelhead migration to thus rehabilitate this important local anadromous fishery. And equally pleased, both as to aesthetic considerations as well as preservation of wildlife habitat, by the plans for restoration of the riparian resources with vegetative plantings.

Sincerely,

Ray W. Fisher,
Senior Advisor
Federation of
Fly Fishermen

cc: Bill Rusk, Chairman, N.
California Council of Fly
Fishing Clubs Conservation
Team
Roy E. Haile, President,
NCCFFC
& Others

SIERRA CLUB

LOMA PRIETA CHAPTER

San Mateo, Santa Clara, San Benito Counties

Located at the Peninsula Conservation Center
2253 Park Blvd., Palo Alto, CA 94306
(415) 327-8111 (1:00-5:00 p.m., Mon. - Fri.)

February 8, 1982

Francis C. H. Lum
State Conservationist
United States Department of Agriculture
Soil Conservation Service
2828 Chiles Road
Davis, CA 95616

Thank you for the opportunity to comment on draft Environmental Impact Report for Llagas Creek Watershed, Santa Clara County, California.

Our comment is that though the EIR does address the various environmental impact of this project, it does not address the cumulative impacts. Each project evaluated indepently often appears to have minimal impact, but all development projects taken in total have a generally more sever impact on the environment. The EIR, for example, implies that the loss of wildlife habitat (and therefore wildlife) can be minimized by careful planning. It does not, however, reference the total acreage loss of wildlife habitat in the County as a result of urban dvelopment.

Sincerely,

Dena Mossar

Dena Mossar
Land Use Representative for Santa Clara County

J. I. Whitlow, Santa Clara County Clearinghouse Coordinator
San Jose State University, Department of Anthropology
San Jose, California 95192 (408) 277-2533

SOCIETY FOR CALIFORNIA ARCHAEOLOGY

23 February 1982

Mr. Francis C. H. Lum
State Conservationist
Soil Conservation Service
2828 Chiles Road
Davis, Ca. 95616

Dear Mr. Lum,

Upon reviewing the interagency review draft of the Environmental Impact Statement/Report for the Llagas Creek Watershed in Santa Clara County, California, we have found certain deficiencies in the planned mitigations.

Under item number 6, the mention of "a plan for avoiding or mitigating adverse effects on cultural values resulting from the removal of the Gilman Road bridge is being developed by SCA and SCVWD in consultation with the State Historic Preservation Officer" is made. No alternatives to removal of the bridge were given, such as constructing a second bridge adjacent to the 1911 structure to handle the additional traffic, or realignment of the road to a new bridge, leaving the old bridge intact. Were any other plans considered in regards to simply removing the bridge?

Item 8 acknowledges that cultural resources may be "discovered during detailed investigations or construction" and that the Sponsors "will also permit archaeologists who are interested to observe any of the earth-moving activity." If there is a potential for the disturbance of cultural resources, a detailed plan should be made to be sure a monitor is at the sensitive areas during earth-moving activities. "Permitting interested archaeologists to observe" implies on a volunteer basis. This kind of work requires vigilance by qualified observers who can recognize the traces of past cultures. It is also tedious work that is not appropriate to reliance on volunteers. Thus monitoring services by a full-time qualified archaeologist should be provided.

Thank you for your attention.

Sincerely,

J. I. Whitlow

J. I. Whitlow

cc. Dr. Bernie Goldner
SCVWD

Dec 28 -

Dear Sir:

Received your letter dated
... 22. in regard to the Flood Contr
Report. Would you kindly send
me a copy for review? Thanking
you.

Also I own the corner land that
widen the Llagas creek and 152.
(I've passed the bridge on 152.) Beyond
the garlic plant.

Can you explain to me why you
need 8 acres of land of good or choice
prime land when there happened
been a flood from Tucker or (San
Martin Bridge on 101) to Bloomfield
... ? The land has been in our
~~the~~ family for 70 years. and until
... never flooded the original 50 ac
the state has taken land twice for
widening 152 (152) road.

I understand that in San Martin & Morgan
Hill homes were allowed to be built
on low lands. which should never
been allowed. The need comes from
... what would happen. (They
should not have been allowed there

What kind of flood do you
expect in the future? We have
[illegible]

[illegible]

Does it take 8 acres for the Creek to absorb even a flood?

If you owned this property, I'm sure you wouldn't enlarge the creek with 8 acres. Perhaps a little wider by the bridge on 152, or deepening the creek, & cleaning it of debris and shrubs would be sufficient.

Also how come that 1 owner must pay the penalty and not on both sides?

You know as well as I do, or any average person knows, that no amount of money can compensate for the loss.

Think about it. Use your conscience. How would you feel? The other person feels like you do.

Thanking you and I would appreciate a reply.

Sincerely

Mrs. [illegible]

PS

Kindly transfer this letter to the district representative or person who is in charge of this with the county project. Thank you

1-14-
Randy

14995 Columbet Ave
San Martin, Calif. 950
(408-779-6115)
Jan 10, 1982

Dear Mr. Lum,

I am writing for two reasons:
First, I wish to request a copy
the Enviromental Impact Statement Report
for the Llagas Creek watershed flood project
Second, Our home is located off
Columbet ave. just down from Maple av
I was unable to attend the past two
meetings, but am of the impression th
this area has been tabled for the pre
This is of great concern as we had
such severe flooding all around our hom
on Jan. 4, 1982 that I was unable to get
to it. This had also happened other years
We bought the property and built o
home all according to county provisions
which included a culvert under our
driveway that cannot hold the water
flow we have each year after heavy rai
It takes approximately two hours after a hea
rain for our road to be flooded and thoug
inconvinient and a safety hazzard to our
young children, it is usually still passable.
The land around our place was purchas
by the county for flood protection prior
our land purchase.
Please give reconsideration to this ara
as it reflects urgency in flood protection
[illegible] Truly,

7331 Carmel Street
Gilroy, California 95020
February 13, 1982

Soil Conservation Service
2828 Chiles Road
Davis, California 95616

Re: Proposed Llagus Creek Flood-control Project

Dear Sir:

We have faithfully attended the meetings regarding this project for two reasons:

1. We are taxpayers and taxpayers foot the bill.
2. We have property on the Uvas Creek watershed which was included in the 100 year flood area.

Our observations during the meeting of Wednesday, February 10th are:

1. Only a few people raised their hands to show approval and even though no one raised their hands in disapproval, many did not vote including us. This was not the "enthusiastic approval" as reported by Mr. Glines.
2. The meeting lacked the spontaneity that occurred at the January 26, 1982 Loma Prieta Resource Conservation District meeting following the recent flooding. At that meeting there was an attitude of trust in that the individuals in charge would listen and attempt to find a solution to prevent flooding.
3. Are the people justified in their feeling of mistrust toward the Santa Clara Valley Water District?
    a) The formation of the "Citizens to Preserve the Llagus Watershed" to support the rights of land owners supports this mistrust.
    b) We own 64 acres of land on which we wish to build our home. We were unaware that this land was divided into three parcels of 38, 22 and 4 acres until we applied for site approval at the planning commission. Unfortunately the site we selected was on the 4 acre parcel. Supervisor Wilson, Mr. Sanchez and Mr. Korbay knew we opposed an ordinance introduced during Mr. Sanchez term as supervisor that creek dedication must be made or no site approval. This in effect gave them the right to blackmail us into dedicating land without just compensation in return for site approval. This ordinance is in direct conflict with the law of eminent domain. Many others had to accept this ordinance resulting in a feeling of bitterness and mistrust. After thousands of dollars we learned that by combining two parcels for a total of 26 acres, a dedication was no longer necessary, implying that we will no longer flood. The fact that none of the county officials mentioned at the onset certainly justified this mistrust.
    c) We would like to know the ratio of the cost of management to the actual work done. Could the Loma Prieta District do it better since it is in this area and understands the problems locally.

d) Are other areas outside this district being neglected? An example is the Uvas Creek at the bridge on Highway 152 which has been eroding the banks for several years and now is threatening Burchell Road and the bridge itself when the removal of a gravel bar could have been an ounce of prevention.

In this county it is said that the Water District is second in power to the board of supervisors. Their ultimate goal is to control all the creek lands creating a powerful bureaucracy having the power to finally attain their primary goal to open all these creeks through private lands for linear parkways.

Sincerely yours

John F. Perry

Katherine H. Perry

6123 Estates Drive
Oakland, CA 94611

January 14, 1982

U.S.D.A. Soil Conservation Service
2828 Chiles Road
Davis CA. 95616

ATTN: Francis C. H. Lum
State Conservationist

Gentlemen:

This relates to the draft Environmental Impact Statement/Report on the Llagas Creek Watershed. I am the owner of property along Llagas Creek between San Martin and Gilroy.

The report indicates that for an expenditure of $22,184,900, the Selected Plan would result in a saving of $941,000 (page 45) or $834,300 ($917,300 less $83,000 plus o & m of $49,400 on page 2).

Table 8 on page 45 shows the Average Annual Installation Cost of only $713,000 for the $22,184,900 project. This seems grossly understated. Ignoring interest, a saving of $941,000 annually would not pay back for 23½ years. I don't see how an investment which only pays back over such a long period can be justified.

At today's interest rates, $22,184,900 invested elsewhere would produce at least $2,500,000 annually, which is at least 2-1/2 times the annual savings claimed.

Could you advise:

1) How the Average Annual Installation cost of $713,000 is computed.

2) How the annual savings for Plan F on page 2 and page 45 can be reconciled.

3) At page 41, the statement is made that "the no project alternative allows significant flood problems to remain unsolved. For this reason it was generally unacceptable." If the cost of solving the flood problem exceeds the benefit, why should the expenditure be made?

- see page 2 -

While as indicated above, it would appear to me that for Alternate F, as well as the other alternates, the cost substantially exceeds the benefits, and no one of the alternates should proceed.

If I am incorrect, I would appreciate your educating me.

Very truly yours,

Ward B. Saunders, Jr.

WBS:f

P.O.BOX 138
BURLINGAME, CA.94010
Tel:(415) 344-1702

answer needed!

February 4,1982

Mr.Francis C.H.LUM,
State Conservationist
2828 Chiles Rd.
Davis, CA.95616

APN-825-12-001
Ref:143-D- 12385 Columbet Ave.
San Martin,CA.
Realignment San Martin Creek with
East Little Llagas Creek

Dear Mr.Lum;

Thank you for mailing me a copy of Llagas Creek Watershed Report. I believe that a realignment of San Martin Creek at its confluence with East Little Llagas Creek as per map attached would help soil conservation and reduce soil errosion, would improve drainage, and would be a great improvement to everyone in the area. At various times I was told that such realignment is part of any work to be done in the area, yet I do nnt see on Reach 14, Map of the Report such Realignment. Is this to be a separate job ?.I hope you will include this Realignment in final Work Report.

Please acknowledge and let me know what is being done regarding this important matter. Much obliged

Sincerely

Ben Simms

Ben Simms

P.S.With work now in progress on the 101 at Cochran, this presents a great opportunity for backfill earth to be used for this small job.that would make a vast improvement